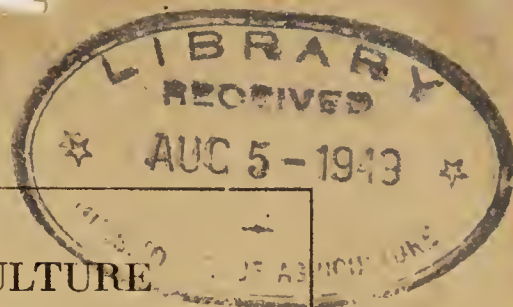


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U. S. DEPARTMENT OF AGRICULTURE

COOPERATIVE EXTENSION WORK IN
AGRICULTURE AND HOME
ECONOMICS, 1918



WASHINGTON
GOVERNMENT PRINTING OFFICE
1919

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LETTER OF TRANSMITTAL.

U. S. DEPARTMENT OF AGRICULTURE,
STATES RELATIONS SERVICE,
Washington, D. C., May 26, 1919.

SIR: I have the honor to transmit herewith a report on cooperative extension work in agriculture and home economics in the United States for 1918, and on the work of the Department of Agriculture in relation thereto. This is a part of a report prepared in accordance with the following provision of the act of Congress of March 4, 1915, entitled "An act making appropriations for the Department of Agriculture for the fiscal year ending June thirtieth, nineteen hundred and sixteen":

That hereafter there be prepared by the Department of Agriculture an annual report on the work and expenditures of the agricultural experiment stations established under the act of Congress of March second, eighteen hundred and eighty-seven (Twenty-fourth Statute's at Large, page four hundred and forty), on the work and expenditures of the Department of Agriculture in connection therewith, and on the cooperative agricultural extension work and expenditures of the Department of Agriculture and of agricultural colleges under the act of May eighth, nineteen hundred and fourteen, entitled "An act to provide for cooperative agricultural extension work between the agricultural colleges in the several States receiving the benefits of an act of Congress approved July second, eighteen hundred and sixty-two, and of acts supplementary thereto, and the United States Department of Agriculture"; and that there be printed annually eight thousand copies of said report, of which one thousand copies shall be for the use of the Senate, two thousand copies for the use of the House of Representatives, and five thousand copies for the use of the Department of Agriculture (38 Stat. L., p. 1110).

This report embodies all the information heretofore submitted in compliance with the provisions of 38 Stat. L., p. 374, sec. 7.

Very respectfully,

A. C. TRUE, *Director.*

Hon. D. F. HOUSTON,
Secretary of Agriculture.

STATES RELATIONS SERVICE.

A. C. TRUE, Director.

OFFICE OF EXTENSION WORK IN THE SOUTH.

BRADFORD KNAPP, Chief.

J. A. EVANS, Assistant Chief.

States.

Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia.

Washington Staff.

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J. H. McCLAIN, Specialist, dairy husbandry.

J. W. KINGHORNE, Specialist, poultry husbandry.

KENNETH HAWKINS, Specialist, bee culture.

W. R. MATTOON, Specialist, forestry.

C. L. GOODRICH, Specialist, farm management.

L. O. WATSON, Specialist, cotton and truck crop diseases.

BOYS' AND GIRLS' CLUB WORK AND HOME-DEMONSTRATION WORK.

O. B. MARTIN, Assistant in charge of boys' and girls' club work and home-demonstration work.

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F. P. LUND, Specialist, drying and canning.

MARY E. CRESWELL, Assistant in home demonstration and girls' club work.

OLA POWELL, Assistant in home demonstration and girls' club work.

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HANNAH L. WESSLING, Assistant chemist, bread making.

ASSISTANTS.

H. W. BARBER, Assistant in charge of crop records and statistics.

W. H. CONWAY, Executive assistant.

F. M. McLAUGHLIN, Record clerk.

Cooperative Field Extension Staff.**COUNTY AGENT AND BOYS' CLUB WORK.**

Men agents: 15 directors, 12 State agents, 7 assistant State agents, 73 district agents, 1,156 county agents and assistants, 142 local agents for negroes.

Women agents: 14 State agents, 13 assistant State agents, 44 district agents, 883 county agents, 175 local agents for negroes, 83 city agents, 19 city agents for negroes.

Boys' and girls' club work: 18 State leaders, 67 county club leaders.

OFFICE OF EXTENSION WORK IN THE NORTH AND WEST.

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L. A. CLINTON, Assistant Chief.

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Arizona, California, Colorado, Connecticut, Delaware, Idaho, Illinois, Indiana, Iowa, Kansas, Maine, Massachusetts, Michigan, Minnesota, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Dakota, Ohio, Oregon, Pennsylvania, Rhode Island, South Dakota, Utah, Vermont, Washington, Wisconsin, and Wyoming.

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R. W. REDMAN, Agriculturist.

COUNTY-AGENT WORK.

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H. B. FULLER, Agriculturist.

L. R. SIMONS, Agriculturist.

W. M. COOK, Agriculturist.

O. S. FISHER, Agriculturist.

H. W. GILBERTSON, Assistant agriculturist.

ADMINISTRATIVE SUBJECT-MATTER SPECIALISTS.

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H. J. WILDER, Agriculturist, soils.

A. F. HAWES, Specialist, forestry.

J. D. McVEAN, Specialist, animal husbandry.

C. P. CLOSE, Specialist, horticulture.

D. C. DAVIS, Specialist, sheep husbandry.

J. W. KINGHORNE, Specialist, poultry husbandry.

BOYS' AND GIRLS' CLUB WORK.

O. H. BENSON, Agriculturist, in charge.

GEORGE E. FARRELL, Assistant agriculturist.

T. J. NEWBILL, Assistant.

GERTRUDE WARREN, Assistant.

FARM-MANAGEMENT DEMONSTRATIONS.

L. H. GODDARD, Agriculturist, in charge.
P. K. WHELPTON, Scientific assistant.

EXTENSION WORK WITH FARM WOMEN.

FLORENCE E. WARD, Assistant agriculturist, in charge.

ASSISTANTS.

J. A. LIGGETT, Executive assistant.
M. M. THAYER, Assistant executive clerk.
L. G. MAYBEE, Record clerk.

Cooperative Field Extension Staff.

COUNTY-AGENT WORK.

36 county-agent leaders, 203 assistant county-agent leaders, 1,357 county agents and assistants.

BOYS' AND GIRLS' CLUB WORK.

27 State leaders, 134 assistant State leaders, 935 club leaders.

FARM-MANAGEMENT DEMONSTRATIONS.

19 State demonstrators, 8 assistant demonstrators.

HOME-DEMONSTRATION WORK.

47 State leaders, 47 assistant State leaders, 602 county home-demonstration agents, 107 city home-demonstration agents.

STATE OFFICIALS IN CHARGE OF AGRICULTURAL EXTENSION WORK.

ALABAMA.—J. F. Duggar, Alabama Polytechnic Institute, Auburn.
ARIZONA.—E. P. Taylor, College of Agriculture, University of Arizona, Tucson.
ARKANSAS.—W. C. Lassetter, College of Agriculture, University of Arkansas, Fayetteville.
CALIFORNIA.—W. T. Clarke, College of Agriculture, University of California, Berkeley.
COLORADO.—H. T. French, State Agricultural College of Colorado, Fort Collins.
CONNECTICUT.—H. J. Baker, Connecticut Agricultural College, Storrs.
DELAWARE.—H. Hayward, Delaware College, Newark.
FLORIDA.—P. H. Rolfs, College of Agriculture, University of Florida, Gainesville.
GEORGIA.—J. Phil Campbell, Georgia State College of Agriculture, Athens.
IDAHO.—L. W. Fluharty, The State House, Boise.
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LOUISIANA.—W. R. Perkins, Louisiana State University and Agricultural and Mechanical College, Baton Rouge.
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MICHIGAN.—R. J. Baldwin, Michigan Agricultural College, East Lansing.
MINNESOTA.—A. D. Wilson, College of Agriculture, University of Minnesota, University Farm, St. Paul.
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- MISSOURI.—A. J. Meyer, College of Agriculture, University of Missouri, Columbia.
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- NEBRASKA.—C. W. Pugsley, College of Agriculture, University of Nebraska, Lincoln.
- NEVADA.—C. A. Norcross, College of Agriculture, University of Nevada, Reno.
- NEW HAMPSHIRE.—J. C. Kendall, New Hampshire College of Agriculture and the Mechanic Arts, Durham.
- NEW JERSEY.—Alva Agee, Rutgers College, New Brunswick.
- NEW MEXICO.—A. C. Cooley, New Mexico College of Agriculture and Mechanic Arts, State College.
- NEW YORK.—A. R. Mann, New York State College of Agriculture, Ithaca.
- NORTH CAROLINA.—B. W. Kilgore, North Carolina College of Agriculture and Mechanic Arts, West Raleigh.
- NORTH DAKOTA.—G. W. Randlett, North Dakota Agricultural College, Agricultural College.
- OHIO.—C. S. Wheeler, College of Agriculture, Ohio State University, Columbus.
- OKLAHOMA.—J. A. Wilson, Oklahoma Agricultural and Mechanical College, Stillwater.
- OREGON.—O. D. Center, Oregon State Agricultural College, Corvallis.
- PENNSYLVANIA.—M. S. McDowell, Pennsylvania State College, State College.
- RHODE ISLAND.—A. E. Stene, Rhode Island State College, Kingston.
- SOUTH CAROLINA.—W. W. Long, Clemson Agricultural College of South Carolina, Clemson College.
- SOUTH DAKOTA.—Christian Larsen, South Dakota State College, Brookings.
- TENNESSEE.—C. A. Keffer, College of Agriculture, University of Tennessee, Knoxville.
- TEXAS.—Clarence Ousley, Agricultural and Mechanical College of Texas, College Station.
- UTAH.—J. T. Caine, III, Agricultural College of Utah, Logan.
- VERMONT.—Thomas Bradlee, University of Vermont and State Agricultural College, Burlington.
- VIRGINIA.—J. M. Jones, Virginia Polytechnic Institute, Blacksburg.
- WASHINGTON.—W. S. Thornber, State College of Washington, Pullman.
- WEST VIRGINIA.—C. R. Titlow, College of Agriculture, West Virginia University, Morgantown.
- WISCONSIN.—K. L. Hatch, College of Agriculture, University of Wisconsin, Madison.
- WYOMING.—A. E. Bowman, College of Agriculture, University of Wyoming, Laramie.

OFFICIALS IN CHARGE OF FARMERS' INSTITUTE WORK IN THE STATES.

- ALABAMA.—C. A. Cary, Polytechnic Institute, Auburn.
- DELAWARE.—Wesley Webb, secretary State board of agriculture, Dover.
- ILLINOIS.—H. E. Young, secretary Illinois farmers' institutes, Springfield.
- IOWA.—A. R. Corey, secretary State board of agriculture, Des Moines.
- MAINE.—J. A. Roberts, commissioner of agriculture, Augusta.
- MASSACHUSETTS.—Wilfred Wheeler, secretary State board of agriculture, Boston.
- MISSOURI.—Jewell Mayes, secretary State board of agriculture, Jefferson City.
- NEW HAMPSHIRE.—Andrew L. Felker, commissioner of agriculture, Concord.
- NEW JERSEY.—John H. Hankinson, director of farmers' institutes, New Brunswick.
- NORTH CAROLINA.—T. B. Parker, director of farmers' institutes, Raleigh.
- PENNSYLVANIA.—C. E. Carothers, director of farmers' institutes, Harrisburg.
- RHODE ISLAND.—John J. Dunn, secretary State board of agriculture, Providence.
- TEXAS.—J. W. Neill, director of institutes, State board of agriculture, Austin.
- VERMONT.—Elbert S. Brigham, commissioner of agriculture, Montpelier, Vt.
- VIRGINIA.—J. J. Owen, director of institutes, Richmond.

OFFICIALS IN CHARGE OF FARMERS' INSTITUTE WORK IN THE AGRICULTURAL COLLEGES.

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- ARKANSAS.—W. C. Lassetter, director of extension, Fayetteville.
- CALIFORNIA.—W. T. Clarke, director of extension, Berkeley.
- COLORADO.—H. T. French, director of extension, Fort Collins.
- CONNECTICUT.—H. J. Baker, director of extension, Storrs.
- FLORIDA.—P. H. Rolfs, director of extension, Gainesville.
- GEORGIA.—J. Phil Campbell, director of extension, Athens.
- IDAHO.—L. W. Fluharty, director of extension, the State House, Boise.
- INDIANA.—W. C. Latta, farmers' institute specialist, Lafayette.

- KANSAS.—E. C. Johnson, director of extension, Manhattan.
- KENTUCKY.—Fred Mutchler, director of extension, Lexington.
- LOUISIANA.—W. R. Perkins, director of extension, Baton Rouge.
- MARYLAND.—W. B. Symons, director of extension, College Park.
- MICHIGAN.—R. J. Baldwin, director of extension, East Lansing.
- MINNESOTA.—A. D. Wilson, director of extension, University Farm, St. Paul.
- MISSISSIPPI.—R. H. Pate, superintendent of farmers' institutes, Agricultural College.
- MONTANA.—F. S. Cooley, director of extension, Bozeman.
- NEBRASKA.—C. W. Pugsley, director of extension, Lincoln.
- NEVADA.—C. A. Norcross, director of agricultural extension, Reno.
- NEW MEXICO.—A. C. Cooley, director of agricultural extension, State College (no farmers' institutes in State).
- NEW YORK.—A. R. Mann, director of agricultural extension, New York State College of Agriculture, Ithaca.
- NORTH DAKOTA.—Frank Sanford, superintendent farmers' institutes, Agricultural College.
- OHIO.—F. L. Allen, superintendent of farmers' institutes, Columbus.
- OKLAHOMA.—J. A. Wilson, director of extension, Stillwater.
- OREGON.—O. C. Center, director of extension, Corvallis.
- SOUTH CAROLINA.—W. W. Long, director of extension, Clemson College (no farmers' institutes in State).
- SOUTH DAKOTA.—Christian Larsen, director of extension, State College, Brookings.
- TENNESSEE.—C. A. Keffer, director of extension, Knoxville.
- UTAH.—J. T. Caine, III, director of agricultural extension, Logan.
- WASHINGTON.—W. S. Thornber, director extension department, Pullman.
- WEST VIRGINIA.—C. R. Titlow, director of agricultural extension, Morgantown.
- WISCONSIN.—E. L. Luther, superintendent of farmers' institutes, Madison.
- WYOMING.—A. E. Bowman, director of agricultural extension, Laramie.

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COOPERATIVE EXTENSION WORK IN AGRICULTURE AND HOME ECONOMICS, 1917-18.

INTRODUCTION.

This is the fourth report on the receipts, expenditures, and results of cooperative extension work in agriculture and home economics under the provisions of the act of Congress of May 8, 1914, and of similar work conducted under cooperative agreements between the United States Department of Agriculture, State agricultural colleges, and local organizations.

The work of the year 1917-18, as shown in this report, continues to emphasize the value of the cooperative extension movement, not only to the farmer but to the Nation. The fact that in the cooperative extension system there was a combination of Federal and State administrative officers and subject-matter specialists with county agents, farm bureaus, and county agricultural councils made it comparatively easy to keep in touch with the situation with reference to agricultural production and also to bring to the farm people's attention the needs of the Nation as a whole.

FOOD PRODUCTION.

As in 1916-17, the principal necessity was to increase the acreage of cereals and the production of animal fats. That the farmers met this need, in spite of the fact that the labor supply available was considerably decreased, is evident in the increase in the total acreage of farm crops, the increase between 1916 and 1917 and 1917 and 1918 being about 11,000,000 acres in each instance. The number of swine in the same period increased from 67,500,000 to 76,000,000.

One of the most serious problems confronting the extension agents in the Northern States during the war was the corn situation in many States in the spring of 1918. On account of the early frost, there was a large deficiency in corn fit for seed, while the war called for an increased production. It immediately became the function of the county agents to locate seed corn of high germination, adaptable to the locality where it was to be planted, and to see to its proper distribution among the farmers. This problem called for organized effort. By intensive organization and the establishment of numerous testing stations, Iowa was able to care for its seed-corn problem within the State, but Indiana, Michigan, and Ohio were forced to bring large quantities of seed corn from New Jersey, Pennsylvania, and Delaware. The seed stocks committee of

the Department of Agriculture assisted in the location and distribution of this seed; however, the county agents, both at the point of supply and at the point of distribution, aided in attending to the details of gathering the seed together and its distribution. The agents recorded that they made available to 326,662 farmers a sufficient supply of seed to plant 3,500,000 acres, and through their testing campaign 550,000 farmers tested their seed for germination, so that sufficient seed was provided to plant a total of 10,500,000 acres. In connection with their work to increase the production of corn, the agents influenced the farmers to increase their acreage of ensilage corn and thereby were able to increase the production of live stock.

The next crop in importance was wheat. The Department of Agriculture, in cooperation with the Food Administration, carefully determined the food needs, both at home and abroad, and suggested the needed acreage for each State. Within the States, intensive campaigns were carried on with the farmers, largely through the county agents. The agents not only kept the farmers informed as to what the needs of the country were but assisted them in securing the proper supply of seed wheat and aided those farmers who had never grown wheat before in cultivation and harvesting. The increased acreage due to the activities of the agents brought about the planting of 4,100,000 additional acres, with an increased production of 45,000,000 bushels, and an additional 2,500,000 acres of winter wheat was planted in the fall of 1918 as a result of the wheat-production campaign conducted by the county agents.

Another important feature of the work carried on by the county agents in the campaign for increased crop production was the treatment of oats for smut. Nearly 100,000 farmers, representing an oat acreage of 1,800,000 acres, were influenced to treat their seed oats. The agents also assisted the farmers in increasing their acreage of rye, barley, potatoes, buckwheat, and other minor crops. Another important feature of their campaign was the establishment of home and community gardens. They also encouraged, to a limited extent, the canning and drying of fruits and vegetables.

In a campaign conducted in 300 counties, the increased number of live stock involved was 128,000 head of cattle, 940,000 head of hogs, 382,000 head of sheep, and 1,050,000 fowls. Over 1,000,000 animals were treated for diseases as the result of the activities of the county agents. The agents were able to introduce into these communities a large number of pure-bred live stock, and took an active part in the campaign to increase the production of hogs.

The extension organization in the South very efficiently met the problem of sustaining the production of food and feed in the years 1917 and 1918 in the face of high-priced cotton. As a result of their

very complete campaign, the acreage of cotton was actually reduced, and the acreage of corn, wheat, oats, hay, potatoes, sweet potatoes, and in fact all other crops was increased. In the spring of 1918 the same thing was repeated, except that the high price of cotton forced a slight increase in the cotton acreage. The acreage in corn was practically sustained, while the acreage of wheat, oats, rye, hay, potatoes, sweet potatoes, rice, peanuts, grain sorghums, velvet beans, and other food and feed crops was increased. In the fall of 1918, owing to the campaign for more wheat, the seeding of wheat for the harvest of 1919 was increased.

The extension organizations in the South conducted campaigns for an increased production of live stock, resulting in an increase of 6 per cent in the number of hogs, 3 per cent in the number of milch cows, 5 per cent in the number of sheep, and 5 per cent in the number of other cattle, the increase in hog production being the highest in Mississippi and Tennessee, each of which shows a gain of 20 per cent over the year 1917. The general result was that the Southern States more nearly than ever before produced the food required by their people and at the same time kept cotton production at a relatively high level. The economic condition of the southern farmers was thus greatly improved, except in some sections where drought materially reduced crop production.

FOOD CONSERVATION AND UTILIZATION.

The scarcity in the world supply of food also made it necessary for the extension agents to stress food conservation and utilization and to introduce food combinations with which the people were unfamiliar. It also necessitated the use of the same methods in the cities that had been practiced in the rural districts, and for the first time home-demonstration agents were appointed to work exclusively in urban districts. One hundred million containers of fruits and vegetables and their products were canned and preserved under the immediate supervision of the home-demonstration agents.

They carried the lesson of wheat, meat, sugar, and fat conservation to thousands of families and reached so large a number of people that they materially assisted the Food Administration and other forces in putting many States and counties on a nonwheat or restricted wheat basis during the spring of 1918.

In the South, 659 community demonstration kitchens were organized under their supervision and used for the purpose of community instruction. They organized and built 847 community canneries and 131 community drying centers. They assisted in the organization and establishment of 18 curb markets in cities, where city women could buy, direct from farmers and farm women, fruits and vegetables brought in from the country. They organized 173 egg circles

among farm women and girls, with the result that 575,593 dozen eggs were marketed cooperatively, 200,000 dozen eggs were sold through individuals belonging to these associations, and over 1,000,000 pounds of poultry were marketed. They secured the establishment of 137 rest rooms for women in towns.

In the Northern and Western States, over 3,000,000 women were reached through training classes, talks, demonstrations, and visits to homes, and interested in various phases of food production, utilization and preservation, the conservation of clothing and fuel, and various phases of health and child care.

Under the immediate supervision of the agents, 140,000 gardens were grown, 1,700,000 fowls were cared for, 4,000,000 pounds of butter and 7,000,000 pounds of pork were produced, 110 community kitchens and 450 canning kitchens were established, and 300,000 families influenced in food saving.

BOYS' AND GIRLS' CLUB WORK.

Not only the adults but the boys and girls were interested in the problems of food production and conservation. Altogether, 1,250,000 boys and girls undertook definite work in the production and conservation of agricultural products under the agents' supervision. Some of the results that the boys and girls organized in club work in the North and West reported were the production of over 300,000 bushels of corn, 650,000 bushels of potatoes, 3,000,000 square rods of home gardens, canning of 2,000,000 quarts of canned products, 165,000 jars of jelly, the production of 330,000 chickens, 135,000 dozen eggs, 600,000 pounds of beef, and 4,400,000 pounds of pork.

In the Southern States the boys' club work is handled by the county agents, while the girls' work, which has been reported above, is included in the work of the home-demonstration agents for women and girls. The boys' work in the South was responsible for the production of over 525,000 bushels of corn, 40,000 bushels of peanuts, 30,000 bushels of potatoes, 6,338 bushels of grain sorghums, 12,857 bushels of wheat, 496 bushels of beans, 1,668,907 pounds of cotton, 224,517 pounds of beef, 1,728,092 pounds of pork sold for the market and 2,810,897 pounds retained for breeding purposes. The poultry work is reported under the girls' work. The total market value of products of the boys' clubs in the South was about \$12,000,000. These boys borrowed from banks \$536,402 for the purchase of animals to engage in club work.

Not only the club workers but also the home-demonstration agents and the county agents encouraged the planting of war gardens, and never before have the farmers been able to supply their food needs so adequately from home gardens. Thousands of people in the villages and cities were also helped in their garden work.

ECONOMICS OF PRODUCTION AND DISTRIBUTION.

The efforts to increase production and to conserve the food supply also caused greatly increased attention to be paid to the various phases of marketing and other economic factors in the production and distribution of agricultural products. In addition the county agents were very influential in establishing local labor exchanges, which enabled the farmers to find readily such help as was available in the community in case of need.

LOCAL ORGANIZATION AND COOPERATION.

Another development growing out of the stress of war was the increased interest and activity among the farming people in community and county organizations. These organizations were formed not only to support the extension agents in their educational work but also for independent cooperative buying and selling, cow testing, live-stock breeding, and similar purposes. Many of these organizations are taking interest in the community affairs quite broadly.

During the year 15,000 farmers' clubs or community committees were organized to cooperate with the county agent in his work; 30,000 clubs among women and 50,000 among boys and girls. A million farmers associated themselves with the farm bureaus, county farm councils, and other organizations supporting the work of the county agents, and about 500,000 of these farmers carried on demonstrations on their own farms. Through visits to farms, meetings, and otherwise, the extension agents reached more than half the total number of farms in the United States. About 250,000 meetings of various kinds were addressed by extension agents, with a total attendance of 8,000,000.

Not only was the extension work greatly expanded but its scope and variety were greatly enlarged. There is a widespread movement among the farming people to come together for the promotion of agriculture and country life. They not only gladly accept the instruction and information which the extension forces bring to them, but exert themselves in large numbers to apply these teachings without delay in their practical affairs. Through the combination of expert agents and organizations of practical farm men and women, many useful services for the improvement of the material and social interests of farming people are being performed. To meet the war needs in the production and conservation of foods and other agricultural products the extension forces were very rapidly developed on a much larger scale. Within the year covered by this report 1,000 additional counties were organized for extension work.

EXPANSION OF THE SERVICE.

The number of counties having the services of a county agent June 30, 1917, was 1,434, and June 30, 1918, 2,435. The number of counties having the services of a home-demonstration agent increased

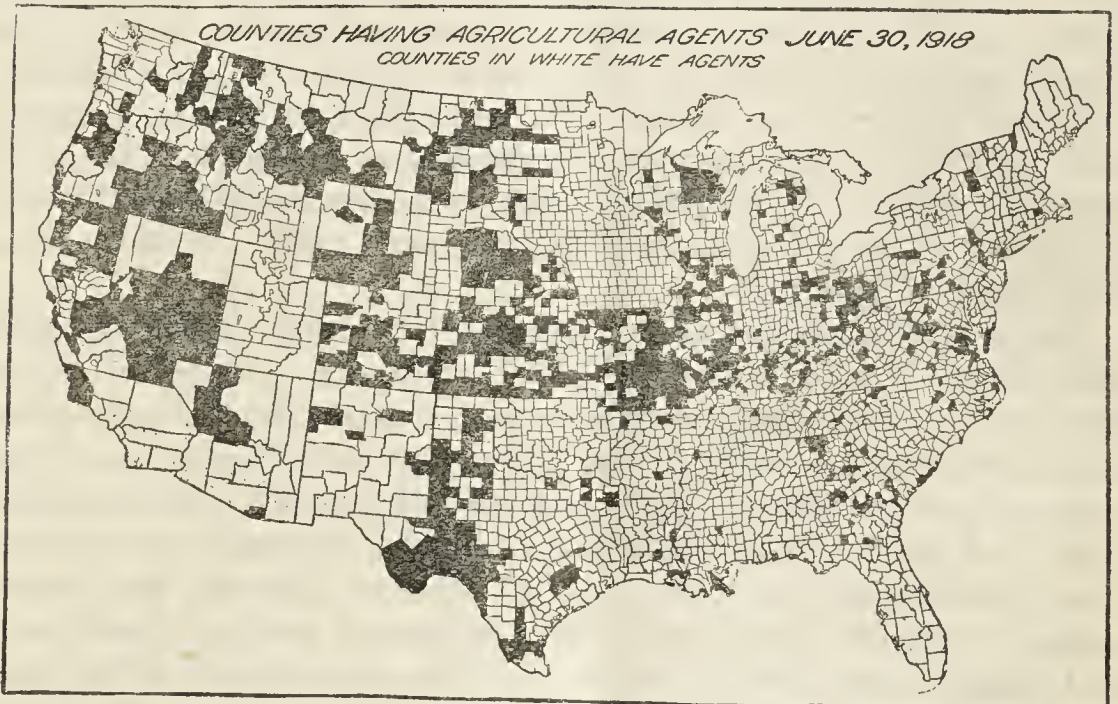
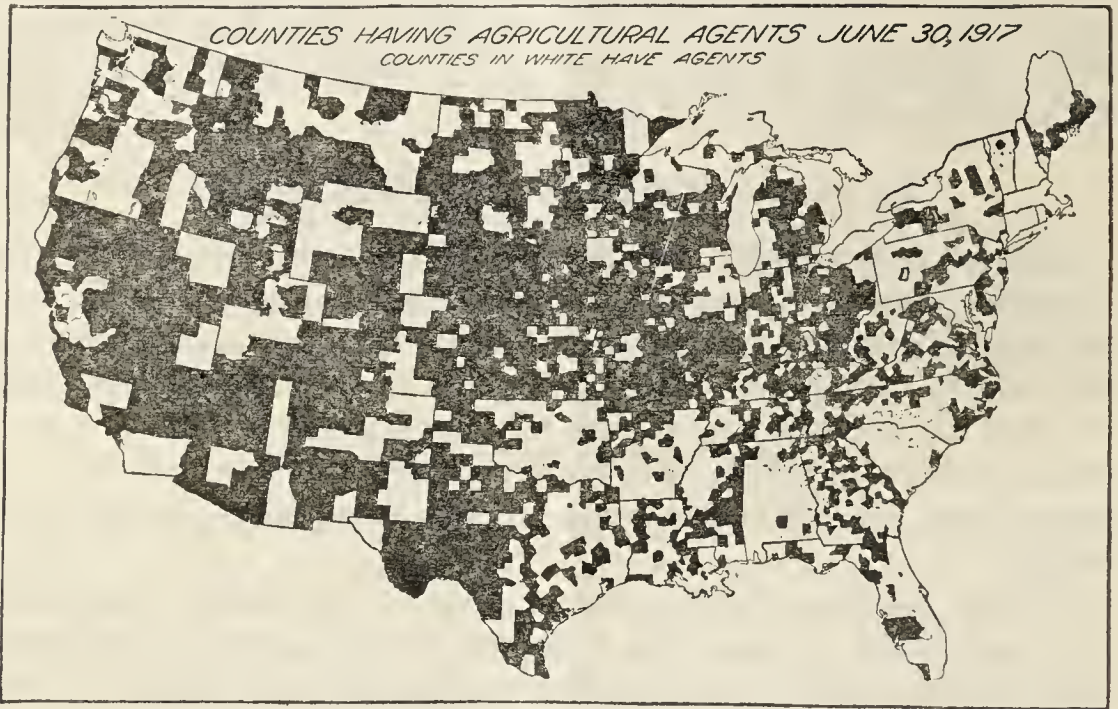


FIG. 1.—Increase in counties having agricultural agents from June 30, 1917, to June 30, 1918.

in the same period from 537 to 1,715. (Figs. 1 and 2.) The total number of persons employed in the cooperative agricultural extension work increased from 4,100 to 6,725. The number of women employed increased from 1,117 to 2,329, and of men from 2,983 to

4,399, 5,507 of whom were giving their entire time to extension work, 272 more than half time, 866 less than half time. Of those giving part time to extension work, 315 were connected with the experiment stations and 269 were connected with the college teaching staffs.

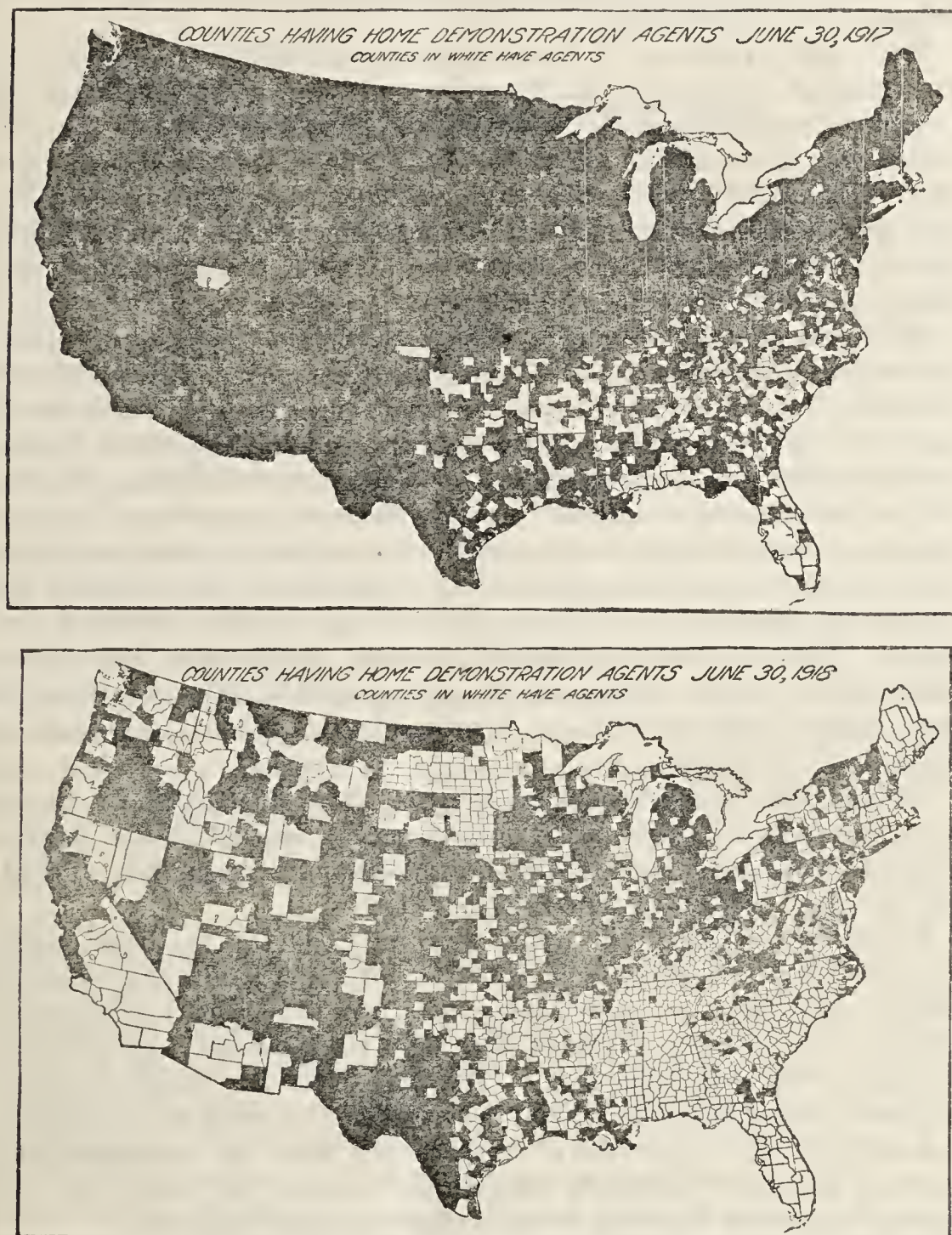


FIG. 2.—Increase in counties having home-demonstration agents from June 30, 1917, to June 30, 1918.

For the fiscal year ending June 30, 1918, under the provisions of the Smith-Lever Act, the sum of \$2,068,066.29 was appropriated from the Federal Treasury and \$1,588,066.29 from sources within the States, making a total of \$3,656,132.58. Of this amount \$1,351,232.26

was used for county agents, \$553,737.60 for demonstration and other work in home economics, \$192,391.85 for the boys' and girls' clubs, and \$80,365.23 for extension schools. The salaries and expenses of the supervising officials and their administrative assistants amounted to \$568,757.92, and \$117,041.17 was spent for the printing and distribution of publications.

The rapid expansion of the extension work under war conditions was possible because of the large special appropriations made by Congress for the purpose. These amounted to \$4,538,000 in 1917-18, which was increased to \$6,100,000 in 1918-19. These funds were used in cooperating with the State colleges of agriculture and the counties in the employment of county agricultural agents, home-demonstration agents (who worked both in the country and in the cities), and boys' and girls' club agents.

The total amount of money expended for the cooperative extension work in 1918 was about \$11,302,800, as compared with \$4,864,200 in 1916. This is an increase of 130 per cent. In 1918 these funds were derived from the following sources: Federal and State Smith-Lever, \$3,656,100; appropriations to the States Relations Service of the Department of Agriculture for farmers' cooperative demonstration work, \$900,400; appropriations to other bureaus and offices of the department for extension work, \$507,300; State funds appropriated specifically for extension work (in excess of Smith-Lever funds), \$682,800; appropriated by county authorities, \$1,863,600; funds under direct control of the colleges, \$198,300; and \$494,200 from various sources, such as farmers' organizations, chambers of commerce, individuals, etc.

Of this total amount from all sources, about \$5,605,000, or 50 per cent, was used for the work of county agents, and \$2,226,200 for the home-demonstration agents and home-economics specialists, including the girls' club work, about 20 per cent.

Among other important items were \$670,000 for the boys' clubs, \$154,000 for extension schools, \$754,200 for supervision and administration, \$207,500 for publications, \$300,000 for animal husbandry, \$333,000 for dairying, \$102,000 for farm management, and \$153,000 for special work on farm crops. The remainder was chiefly spent on the work of specialists in animal diseases, horticulture, plant diseases, entomology, and agricultural engineering, and on correspondence courses, farmers' institutes, educational exhibits at fairs, and the promotion of the teaching of agriculture in rural schools.

In 1918 the farmers' institutes in 15 States were managed by the State departments of agriculture. In the other States they were under the control of the agricultural colleges and formed a part of the general system of agricultural-extension work, often being closely connected with the more systematic scheme of popular instruction in agriculture and home economics embodied in the so-called extension schools.

EXTENSION WORK IN THE SOUTH.

ORGANIZATION AND ADMINISTRATION.

No vital changes of policy with reference to extension work were made in any of the Southern States during the fiscal year 1917-18. With the increase in funds available the main lines of work already established were considerably enlarged. Some new projects were added, mainly to take care of problems arising out of war conditions. Previous to this year practically all extension work was confined to the rural sections. This year, however, a number of city workers in home demonstration and several garden specialists were added to the regular force. Work under these projects had to do particularly with food production and conservation as applied to urban population.

All members of the extension force shaped their efforts to meet war needs as far as possible. The county agent, especially, found it necessary to devote considerable effort to various things which under normal conditions received little attention from him. This naturally resulted in cutting down the number of concrete demonstrations with crops, animals, etc., in order that he might have more time for promotion of organizations and campaigns looking toward the immediate increase of food crops for war needs.

There was a small number of changes in the administrative and supervisory force. In Arkansas, W. C. Lassetter, acting director, became director July 1, 1917. Miss Emma Archer, State agent in home-demonstration work, resigned and was succeeded by Miss Connie J. Bonslagel. In Louisiana, W. R. Perkins, acting director, was appointed director July 1, 1917. In Maryland, Miss Venia M. Kellar, acting State agent in home economics, was appointed State agent. In Mississippi, R. S. Wilson, State agent, was made assistant director and State agent, and Miss Susie V. Powell, State agent in charge of home-demonstration work, was made assistant director in charge of home-demonstration work. In Oklahoma, J. F. Malone resigned as assistant director and State agent and was succeeded by W. D. Bentley. In Texas, T. O. Walton continued acting director in the absence of Director Ousley. M. T. Payne was made State agent on July 1, 1918. In Virginia, the title of Miss Ella G. Agnew was changed from State agent to

assistant director in charge of home-demonstration work. There was an unusually large number of changes in the district county agents and specialists in practically all of the States. This was due largely to the fact that many of the men entered the Army. In one State more than 50 per cent of the male employees of the extension staff entered military service.

With more funds there was a material increase in the total number of employees, especially county agents. At the close of the fiscal year, June 30, 1918, the total number of field agents, exclusive of administrative officers and specialists, was 1,437 men and 1,219 women. Less than 300 of the 1,357 counties in the 15 Southern States were without county agents. The classified increase for the year was as follows: District agents, 18 men and 27 women; county agents and assistant county agents, 304 men and 370 women; local negro agents, 76 men and 168 women; and city workers, 83 white and 19 negro women.

PUBLICATIONS.

During the year 388 publications were issued, containing 4,200 pages and aggregating 3,317,550 copies. The total cost of publications in the 15 Southern States was \$67,560.79. Of this amount \$59,012.01 was from Smith-Lever funds, which is approximately 3.64 per cent of the total Smith-Lever allotment.

All extension publications are prepared by members of the extension staff or by the State agricultural college or experiment station. In each instance the subject matter is approved by heads of divisions under which they come and is written in popular style, covering practical subjects suitable for general distribution among farmers. Many of the publications this year paid special attention to food production and conservation.

The county agent is the chief medium of distribution for extension literature. It is usually sent to the agent in bulk and either given out by him or mailed to the people on his list. In this way individual publications reach the farmer who is interested in that particular subject. The extension directors report an aggregate mailing list of about 300,000 names of a more or less miscellaneous nature, composed of farmers, editors, business men, and other interested persons.

FINANCES.

All funds for extension work in the South were spent in accordance with acts of Congress making the appropriation and the laws of the States, where State funds were involved. The following funds were used from July 1, 1917, to June 30, 1918, in the Southern States:

Smith-Lever :	
Federal -----	\$879, 987. 93
State -----	729, 987. 93
United States Department of Agriculture :	
States Relations Service-----	543, 500. 19
Other bureaus -----	208, 346. 53
Funds for stimulating agriculture-----	1, 041, 361. 01
State appropriations-----	122, 555. 84
College appropriations-----	5, 161. 36
County appropriations-----	855, 180. 61
Other appropriations-----	83, 787. 82
Total -----	4, 469, 869. 22

Smith-Lever funds were expended in carrying out the following projects: Administration; publications; county agents, including negro men agents; home demonstration, including work among negro women and girls; mill-village work; extension schools and field meetings; boys' club work, including negro boys' clubs; animal husbandry—live stock and poultry; dairying—cheese making and creamery; animal diseases; curing of meat; agronomy; horticulture; forestry; plant pathology; entomology—bee keeping; agricultural engineering, including drainage, farm and home conveniences, and rural sanitation; farm management; rural organization, including community programs and community organization; marketing, including cotton grading and marketing, growing and shipping truck, and market clubs; exhibits and fairs; miscellaneous specialists.

No one State had all these projects. All States had projects on administration, county agents, home demonstration and girl's clubs, and publications. A number of the projects listed are practically the same work but have different names in different States. In all States the salary of the county agent is paid partly from local funds, partly by the State extension service, and partly from United States Department of Agriculture funds. A detailed financial statement of expenditures of all extension funds from the States has been submitted and approved.

COUNTY-AGENT WORK.

The county-agent work is oldest in point of organization and experience, the largest in personnel and finances, and more nearly the backbone of the extension organizations in the South than any other division of the extension work. "The partner of its joys and its sorrows" is the home-demonstration work, now coming into full recognition and standing; but the county-agent work still bears the great brunt of the field effort. The year 1918 saw a tremendous impetus to organization. The emergency funds appropriated by Congress and first available in August, 1917, did not reach their full effect in the field until the season of 1918.

On June 30, 1916, there were 731 county agents in the 15 Southern States; June 30, 1917, there were 860; June 30, 1918, there were 1,144. The work was directed by a corps of 15 directors of extension, 15 assistant directors or State agents in charge of the county-agent work, 3 assistant State agents, 73 district agents, 1,144 county agents (covering approximately 1,159 counties), 12 assistant county agents, and 142 negro agents. These figures are given for about the middle of the season and fairly show the personnel during the greater part of the season of 1918. The district agents in the Southern States correspond to the assistant State leaders in the Northern States; they are assistants to the officer in charge of the county-agent work of the State, but are generally occupied with a particular section of the State called a district. Their function is to assist in the organization of counties, employment of agents, introduction and instruction of new agents into their work, arranging for the projects of specialists to operate through the county agents, and generally looking after the extension work of their districts.

The county agents in the South had the assistance of both State and department specialists, regarding whose work a report is made elsewhere (p. 61). Practically no specialist has operated in any of the 15 Southern States without the aid and assistance of the county agent, unless his work happened to be in a county where there was no county agent. In all mention of the work credit should be given to the specialists for their part in the undertaking, but the county agents should have their share of the credit for making the work of specialists effective.

COUNTY ORGANIZATIONS.

The problem of county organizations has been given a great deal of attention in the Southern States during the past 10 years. It has long been recognized that the county-agent work could not be made most effective, in improving agriculture and rural life generally, without the thorough organization of the farmers and their families to assist him. The big problem in extension work is that of reaching the largest possible number of persons; that problem can be met only by thorough organization. In many backward agricultural sections where the one-crop system has prevailed, county agents have been able to do a great deal of most valuable work by the simple process of establishing demonstrations on farms and letting the information be acquired gradually. Counties have been almost revolutionized in their agriculture by this simple process, but it has been noticeable for years past that county agents who have paid most attention to the problems of organization in their communities have accomplished the greatest results and brought about the greatest advancement in their counties.

The problem of organization of counties in the South, like that of organizing farmers for cooperative marketing, is a difficult task. There are peculiar difficulties incident to the conditions found in the South, such as prevail in the mountain sections of the Appalachian region covering parts of West Virginia, Kentucky, Virginia, North Carolina, Tennessee, Georgia, and Alabama; the Ozark Mountain regions of Arkansas; the "black" counties of some of the coastal plains regions; plantation counties where large tracts of land are held by individuals under the old plantation system; and counties where the vast majority of farms are cultivated by tenants, particularly in cotton and tobacco regions. In the organization work a certain amount of difficulty often grows out of racial relations, poor schools, bad roads, and other drawbacks. It is noticeable that the most intelligent sections are the easiest to organize; that the small-farm, home-owning sections are easier to organize than the tenant sections. The South is likewise handicapped by the misfortunes of organizations in some counties in the past. Farmers remember these failures in organization and fear to try again. On the other hand, the well-known national organizations of farmers, like the Farmers' Union and the Grange, have stimulated and helped the reorganization movement.

A careful study of the organizations being perfected leads to the conclusion that, while they may be different in name and may differ slightly in their internal structure, when stripped of all dissimilar features, the one ruling and general characteristic is the county central organization supported by community organizations, where both the community organizations and the county organization plan definite lines of work for agricultural and home improvement and utilize the State extension services, through the county agents, in carrying out the whole scheme of solving individual, community, and county agricultural problems.

The degree of organization in the various States of the South differs widely. Local factors are generally accountable for these differences. Such factors are: The receptive attitude of the people, enthusiasm and devotion of the State forces as well as the county agent for organization or the absence of the same, and the local conditions already enumerated.

During the war period a great impetus was given to organization work in the South through the activities of the councils of defense. Very fortunately, the Office of Extension Work in the South and the State council section of the Council of National Defense had frequent conferences and were in substantial agreement regarding the work of organization. It was agreed that where strong county or community organizations existed they would be utilized by the councils of defense, and that where none existed the county councils

should organize the same, and such organizations would cooperate very closely with the agricultural forces. In a majority of cases the county agent was a member, generally the chairman, of the food-production committee, of the county council of defense. In a great many instances he personally organized the community councils of defense. Food being recognized and extolled as a means of winning the war and the county agent being chiefly engaged in stimulating its production and in facilitating its marketing and distribution, county councils of defense, in many cases, became the county agent's organization. Organizations already in existence in many instances were simply molded over slightly to meet the new conditions, while in a large number of instances the existing organizations did practically all of the work of the county and community councils of defense.

Two strong farmers' organizations have operated in different parts of the Southern States. Both are secret or semisecret organizations of farmers. One is the National Grange and the other is the Farmers' Educational and Cooperative Union. The Grange is particularly strong in Maryland and has some organizations in West Virginia, Kentucky, and Oklahoma, while the Farmers' Union is well organized in all of the Southern States except West Virginia and Maryland. In a number of counties in various sections the county and local organizations of the Grange and the Farmers' Union have formed very excellent county and community organizations and have served some, if not all, of the purposes of an organization to assist in the extension work of the county.

Practically one-half of all counties in the South where there have been county agents for the past year have thorough county organizations supported by well-organized systems of community organizations or committees. Of the balance of the counties almost all have working organizations on a community basis, planning and carrying out lines of extension work but not yet organized into county central organizations.

As bearing on the difficulty in organizing some sections, especially the Appalachian region, one of the county agents in the mountain region of Kentucky says:

The people in the mountains are sociable but prefer to live mainly to themselves. The mountains themselves have isolated them, not only from the outside world but from other parts of the county. Good roads are the exception rather than the rule. Often they look upon even their neighbors with a considerable degree of suspicion.

Yet this county agent has made fair progress toward a good organization in his county by first working to gain the confidence and respect of its people.

A brief description of the organization by States follows:

Alabama.—Alabama has been undergoing an agricultural revolution. The county-agent work is excellent. Much organization work has been done in the State, but the process of creating strong central county organizations has been somewhat slow. At the present time there are about 18 counties with central organizations. Practically all counties have done something along the line of organization and have community organizations to a greater or less degree.

Arkansas.—In Arkansas great progress has been made in community and county organizations. No uniform name seems to have been adopted. Such names are used as County Council of Agriculture, Agricultural and Industrial Bureau, Farmers' Bureau, Commercial and Agricultural Club, County Advisory Committee, etc. A good many counties in Arkansas had organizations already perfected and in working order when the war came on. Under the patriotic appeal of the county agents, the membership in these organizations merged themselves in the Council of Defense movement and became the county and community councils of defense. Of the 68 counties in the State having county agents, 33 are reported as having central organizations. In the other counties the county agents have the assistance of community organizations and often the councils of defense not claimed as agricultural organizations. One of the best counties has 20 community clubs, with a membership of 400 federated into a central body known as the County Advisory Committee.

Florida.—Florida has made considerable progress in organization and makes a most excellent showing. Twenty-two counties out of the 53 in the State have county central organizations. In some of the southern counties this central organization is the Citrus Growers' Association, in others it is known as the County Farmers' Association, in some the Farmers' Cooperative Organization, while in some it is known as the County Advisory Board. One county is organized on the basis of the County Farmers' Union. The largest organization is in a county with considerable city population. It has a farm division of the Commercial Club, supported by 18 rural clubs with a membership of 1,000.

Georgia.—In Georgia great progress has been made in forming county central organizations. Of the 120 counties in the State having county agents during 1918, 76 have had such central organizations. This central organization is known as the County Agricultural Advisory Board. It consists of from three to five farmers from each "militia district" and, in addition, one preacher, one banker, one doctor, one lawyer, and the county superintendent of schools. There are generally no dues or fees for admission. The members are

selected either at a mass meeting or by county commissioners and the county agents, or both. The duties of this advisory board are: Promotion of the general agricultural interests of the county, cooperation with the county agent in securing proper results from his work, assistance in food-production campaigns, distribution of nitrate of soda, bringing in of cattle and hogs for sale to farmers, conducting demonstrations, assisting in county and community fairs, etc. Each group of farmers from each militia district appoints a local committee to assist them in their work in such district. This resulted in a pretty thorough and quite effective organization. Plans on foot contemplate the rounding up and perfecting of the organization in the near future.

Kentucky.—Practically every county where there is a county agent in the State of Kentucky has some sort of an organization. Thirty-seven counties of the 78 in the State appear to have complete central organizations supported by community organizations. The county central organizations are generally known as the County Agricultural Board of Control and consists of delegates elected from every section of the county, generally by the community organizations or farmers' clubs. These organizations engage in cooperative marketing and purchase of supplies as well as in extension work. In practically every county there is an advisory council of farmers, even where there is no supporting organization of community membership. The most highly organized county in the State has 29 community clubs and a County Agricultural Board of Control, consisting of representatives from each of these communities.

Louisiana.—In Louisiana there has been much activity, especially in perfecting rural organization of communities to secure the best results from the services of the parish or county agents. Fifteen parishes in the State have perfected central organizations. In two parishes, the North Louisiana Farmers' Association makes a good organization for the county agents' work. One parish has 18 community organizations, with a membership of 500 farmers and a central organization, known as the Agricultural Advisory Board. A number of parishes are organized with the council of defense; one is organized through the Farmers' Union. One also utilizes the Federal farm-loan organizations of the country. Practically all of the parishes having agents have rural organizations interested in and supporting the county agent's work.

Maryland.—Of the 23 counties in Maryland, 20 have complete organizations, while 3 counties are still more or less imperfectly organized. All have community organizations supporting the work. The general name for the county organization is the County Agricultural Advisory Committee, consisting of representatives from various communities in the county supported by community organi-

zations. One of the most complete county organizations is that of Washington County, which has a central organization known as the Washington Agricultural Association, consisting of 3 delegates elected by and representing each of the 14 community organizations in the county. The total family membership in community organizations amounts to 694. These organizations are helping to plan and execute all lines of extension work, as well as undertaking other cooperative movements for the benefit of the communities in which they are located.

Mississippi.—Of the 79 counties in Mississippi having county agents in 1918, 61 had thorough county central organizations. The plan of organization in Mississippi is to organize community clubs, generally known as community organizations. These were federated together into what was known as the County Community Congress. The plan is to federate these into district and State congresses; but, to a certain degree, the war made it necessary, in many of the counties, to merge the community and county organizations into community and county councils of defense. Nevertheless, in all of the agricultural work, whether the original community organization was continued or whether it was merged into a council of defense, the county and community organizations planned and carried out work with the county agent in agricultural production, conservation, marketing, distribution, and other lines. As cooperative marketing has taken a strong hold in Mississippi (see p. 43), the organizations thus far perfected have undertaken a great deal of cooperative marketing work. This has added strength and interest to the work. In many counties in Mississippi, difficulties in organization have resulted from the failures of past years, and the county agents have proceeded cautiously. One of the best organizations in the State is a county cooperative-shipping association, supported by 54 community divisions, with a total membership of 750.

North Carolina.—Of the 91 counties in North Carolina having county agents during the season of 1918, 31 appear to have had complete county organizations. Practically all of the balance, with the exception of some of the mountain counties and a few of the eastern counties, have community clubs. Several counties call their county central organization the Board of Agriculture; another, the Rowan County Farmers' Organization; some are called County Chambers of Commerce; quite a number are organized through the Farmers' Union, while some are called County Farm Bureaus. North Carolina is strong in rural organization. There are 17 credit unions in the State and quite a large number of local units of the Federal farm-loan banks. In one county these units of the Federal farm-loan bank are working with the county agent in agricultural improvement. Anson County is a good example of a county where

there is no county central organization, but a splendid system of community organizations. These community organizations serve the general purposes of the entire extension service, as well as other purposes in the State. In fact, there is a central organization at the State capital, interested in the general problem of helping people to organize by communities to obtain the services of all public activities in the State. The county central organization which the whole State is working for is a representative organization, consisting of delegates from the community organizations of farmers and their families, with representatives of business men's organizations and public officers, such as a representative of the county government, county health officer, county superintendent of schools, county agent, county home-demonstration agent, and others. One of the best counties has a central organization, supported by 13 rural clubs with 600 members, while another county has one supported by 6 rural clubs with 290 members.

Oklahoma.—Of the 77 counties in Oklahoma having county agents, 53 have county central organizations. The name most often used was County Breeders' Association, though some are organized on the Farmers' Union basis, and one or two are called Farm Bureaus. Effort is being made by the college to standardize the name into County Farm Councils. Progress in this direction is now very rapid, and within a short time the State will be completely organized. There is a total of 387 community clubs, or organizations, with a membership of 15,493, supporting the extension work. State, county, and community farm and industrial councils are now authorized by recent act of the legislature.

South Carolina.—Of the 43 counties with county agents in South Carolina, 12 have county organizations. One of the best organized counties in the State is organized through the Farmers' Union. Orangeburg County has what is called the Orangeburg County Farm Bureau, consisting of a few representative farmers selected by the county agent. One county has what is called the Chamber of Commerce and Agriculture. Several are organized through chambers of commerce. The director and his assistants are working to bring about the necessary organization to enable the work to reach all the people. One county claims a central organization with 16 locals and a membership of 320.

Tennessee.—Of the 91 counties in Tennessee having county agents, 25 have strong central organizations, while practically all the other counties, with the possible exception of some in the mountain regions, have community organizations. The county organizations often consisted of both farmers and business men. In some counties the councils of defense were the organizations. During the greater part of the year, however, owing to war conditions, the chairman of the

county council of defense, the county food administrator, and the county agent formed an executive committee, and by supporting each other in all lines of endeavor enabled the State to do an excellent piece of work, and resulted in a working organization in every county where there was a county agent. A detailed report from two-thirds of the counties showed 610 rural organizations, an average of nearly 10 to the county, and an average of nearly 30 families to each organization. The interest in cooperative marketing and the experience gained out of war-time organization are stimulating the thorough organization of the State, which it is hoped can be perfected within the next year.

Texas.—In Texas the organization problem in 1918 has been a difficult one. In the western part of the State two and almost three years of continued and severe drought disorganized all kinds of work. In some of the counties there was no productive agriculture. The main work of the county agent was the work of helping the people to live and to hold their live stock through that disastrous period. There were county agents in 178 of the 250 counties in the State. In spite of all these difficulties, 88 counties in the State have thorough organizations, and practically all other counties where there were county agents had some sort of community organization. The reports of the county agents, even in the emergency cases, show an active interest in organization. The usual organization is a county central body, known as the County Agricultural Advisory Board, consisting of representatives from each precinct or community in the county, supported by community organizations. There is an average of 13 community organizations to every county where there is a county agent, with an average of 52 members to the organization. Some of the work of this great organization will be shown on page 42 and some of the special features in this report. The largest organization is in Dallas County, where 5,500 members in over 50 rural clubs support a strong central organization.

Virginia.—In Virginia the plans provide for thorough organization on a community basis, with an executive committee or body, known as the County Advisory Board, working with the county officers and others as the central body to look after the agricultural work of the entire county. These county central organizations have helped to plan the work during the past year in many of the counties. In many counties the Farmers' Union has assisted materially in the work. Prior to the inauguration of the council of defense movement, the State was pretty well organized on the basis of county councils of agriculture. Practically every county in the State, where a county agent has been at work any time, has

a good system of community organizations. The object of the County Advisory Board is to federate the activities of all organizations interested in agriculture. Twenty-nine counties of the 75 having county agents seem to be pretty well organized. The negro work in the State is strong, and separate councils of negro farmers have been perfected in each county where there is a negro assistant to the county agent. It is worthy of note that such organizations exist in 15 counties, with a very complete system of community organizations of negro farmers and their families for general agricultural and home and community improvement.

West Virginia.—In West Virginia every county where there is a county agent is thoroughly organized. Forty-two counties had county agents during the past year. Each of these counties had what is known as the County Farm Bureau. Each farm bureau is not only supported by individual membership and contributions or annual fees but consists, essentially, of community organizations the members of which are automatically members of the County Farm Bureau. The board of directors consists of the officers of the county farm bureaus and of the community organizations and becomes the effective working organization for the whole county. The plans for the community are annually decided upon by the community club and reduced to writing and agreed to. There are community leaders who are generally chairmen of the committees on different lines of activity. The community programs of work are then united into county programs, which are reduced to writing and signed by the proper officers. The county programs are then united into a State program. West Virginia is one of the most thoroughly organized States in the whole country. A fair idea of the thoroughness and effectiveness of West Virginia organizations may be seen from the following examples: Randolph County has a farm bureau, supported by 22 active community clubs, with 496 paid-up members. The work is reaching 87 per cent of all farm families. Cabell County has a bureau with 19 community clubs and 425 paid-up members. They are reaching 93 per cent of the farm families. Wood County has a farm bureau with 26 community clubs and 305 paid-up members. They are reaching 96 per cent of the farm families.

The total number of community organizations participating in this work in all the States and the total enrollment in such organizations are difficult to state. The number of persons actually reached is much greater than the enrollment in organizations. However, the figures show that there are more than 7,000 community organizations, with from 30 to 50 families actually registered and actively supporting the organization in each community, making a total of more than 300,000 families active in such organizations. That the enrollment

is much greater than this is evident from the fact that in some counties having excellent organizations the county agent has not reported the enrollment.

THE FARMERS' PARTICIPATION.

As one of the main problems of extension work is to reach the largest possible number of persons, the natural inquiry is, How many farmers were actually reached and how much did the farmers participate in this extensive piece of machinery? Some evidence of this participation, in addition to the organization work already detailed, can be gained from the following figures: In 1918 the county agents in the Southern States made 1,018,084 visits to farms; they had 1,214,820 visits or calls upon them for information at their offices; there were 53,747 meetings held under the auspices of the extension work, and a grand total of 64,217 farmers' meetings were addressed by the county agents. The total attendance at these meetings was 4,488,585 persons. This does not count patriotic meetings. The county agents held 19,105 field meetings at specific demonstrations, attended by 368,898 farmers; 2,716 short courses for farmers were held by the extension services, the local arrangements for which were made by the county agents. These were attended by 281,000 farmers. The aggregate of travel of the county agents in the Southern States for the year 1918 was 6,551,798 miles. They circulated bulletins from the Department of Agriculture and agricultural colleges to millions of farmers and their families. The number from the department was approximately 8,390,000, and the number from the colleges approximately 1,450,000.

Nor is this all. Extension officials made a number of special inquiries into the proportion of all farm families in counties reached through the direct personal efforts of the county agents and through the organizations participating with the county agent in his work. In counties where the county agent has been at work for a year or more the proportion of persons reached runs close to 75 per cent of all rural families. Where the county agent has been in the county and has perfected good organization, running over two or more years, the percentage of farm families reached is from 90 to 99 per cent. The proportion of farm families actually reached by the extension services of the different States in 1918 will vary with the degree of organization and other local conditions. The proportion of counties where the county agents, through thorough organization extending into every community, were able to reach practically every farm family, is extremely large. The combined efforts of the councils of defense and other patriotic organizations during the war enabled the county agents, in counties where the agricultural organization had not been strong prior to the war, to reach a vastly greater number of people than ever before. A proportionately larger

number of farmers were reached in 1918 in the Southern States than ever before in the history of extension work. By the census of 1910 there are 5,769,987 families, both rural and urban, in the 15 Southern States; of these 4,532,051 are rural. The percentage of these reached by extension service in 1918 is from 75 to 80 per cent.

PROGRAM OF WORK.

Extension work in the Southern States had a definite program of work for 1918, well thought out and executed.

FOOD AND FEED PRODUCTION.

Owing to the high price of cotton and tobacco, an extensive campaign was conducted by the extension services in all cotton and tobacco areas to induce farmers, under war conditions, to produce their own food and feed and not to increase abnormally the acreage in either cotton or tobacco at the expense of acreage in food and feed. The Department of Agriculture and the State extension services published numerous circulars calling the attention of the farmers to the food situation, and especially pointing out the economy in growing food supplies at home. The "Safe-farming" program announced by the Office of Extension Work in the South was concurred in by every cotton-growing State and by all agricultural forces. Leaflets were published to show the relative value of cotton as compared with retail prices of food products in the Southern States in 1918 compared with 1914, to show that cotton, even at 30 cents, would not purchase more of food at retail prices than it did in 1914 under normal conditions. This campaign had a marked effect in holding down cotton acreage and increasing food and feed so important during the war. The acreage increases in the various Southern States are shown in the following table:

Crop acreage in the Southern States in 1918.

[Percentage of 1917 acreage.]

State.	Corn.	Wheat.	Oats.	Hay (tame).	Pota- toes.	Sweet pota- toes.	Cotton.
Alabama.....	97	120	108	112	168	107	130
Arkansas.....	101	131	130	103	104	92	104
Florida.....	116	.....	100	104	135	110	89
Georgia.....	102	109	91	100	120	103	103
Kentucky.....	100	112	100	110	94	94	.....
Louisiana.....	105	.....	95	100	200	97	106
Maryland.....	102	106	102	107	86	100	.....
Mississippi.....	100	200	86	87	133	105	116
North Carolina.....	100	115	102	101	97	90	103
Oklahoma.....	91	96	110	101	103	101	109
South Carolina.....	98	120	135	100	125	100	104
Tennessee.....	96	105	100	110	85	95	102
Texas.....	100	94	106	100	112	104	102
Virginia.....	104	110	105	105	83	96	97
West Virginia.....	103	110	104	101	99	100	.....
Average.....	99.6	104.1	106.6	105	103.5	99.7	106.6

SAFE FARMING.

It will be noted from these figures that the main increases in cotton acreage occurred in Alabama, Mississippi, Oklahoma, and Louisiana. In Mississippi, Alabama, and Louisiana the acreage in cotton had previously been cut down heavily on account of the boll weevil, while the Oklahoma increase was due to the fact that drought killed the winter seeding of wheat and oats and left idle acres in the spring of 1918 which the farmers, in their desire to plant something, put into cotton. Altogether, the campaign was a great success. In spite of high-priced cotton and tobacco, the acreage in food was increased, and the total acreage in all crops increased by 3.7 per cent over 1917 and 7 per cent over 1916, in the face of a shortage of farm labor.

Besides the increase of food and feed, the Southern States conducted a campaign for increased acreage in wheat and rye for the 1918 crop, with the results shown in the table.

The campaign conducted for increased meat production is commented on pages 40 and 64.

In general, the program for 1918 included—

1. A home garden for every farm and town family, with full production of home supplies of sirup and potatoes.
2. The production of corn and grain sorghums as the main food and feed crops.
3. Production of wheat, rye, and oats as winter crops to supplement the other grains for food and feed, including increased acreage and production of rice.
4. Increased production of hay and forage, including summer legumes, such as velvet beans, soy beans, cowpeas, and peanuts.
5. Production of the eggs, meat, and milk of the South on the farms of the South, which involved an increase in the production of hogs, cattle, dairy cows, and poultry.
6. Production of cotton as the surplus cash crop, on less acres better tended, and more carefully marketed.
7. Exchange the surplus crops other than cotton for the living expenses of the family and to bring an income for the farm at more times of the year than one.

The universal concurrence in this program brought splendid results.

EFFECT ON SOUTHERN AGRICULTURE.

The general effect on southern agriculture of a continuous and consistent program of better balanced farming is now evident. The acreage of cotton in 1918, though large, was exceeded three times during the past 10 years. The acreage in corn shows a very great increase during the past 10 years in Alabama, Georgia, Mississippi, and South Carolina. The total corn acreage in the Southern States has increased more than 20 per cent since the year 1910, wheat

nearly 100 per cent, oats more than 100 per cent, hay more than 115 per cent, Irish potatoes more than 75 per cent, sweet potatoes more than 50 per cent, rice about 50 per cent, peanuts about 175 per cent; grain sorghums have increased from 1915 to 1918 about 25 per cent in Texas and Oklahoma alone, and velvet beans have increased from a small acreage in 1910 to 4,818,000 acres in 1918.

The live-stock industry in the South has had a similar experience. The growing of more hay, forage crops, and grain, especially corn, soy beans, peanuts, oats, and velvet beans, has greatly increased the production of both hogs and cattle. Dairy cows have increased in the Southern States 10 per cent since 1910, the greatest increases being in Louisiana with 30 per cent; Florida, 28 per cent; Alabama, 26 per cent; Mississippi, 27 per cent; Virginia, 19 per cent; and South Carolina, 12 per cent. Owing to the protracted drought in western Texas and Oklahoma, the actual number of "other cattle" in the South shows a slight decrease. Nearly one-third of all cattle in Texas had to be marketed during 1917 and 1918 to keep them from starving, owing to the most disastrous drought in the history of the western territory. In the sections east of Texas a very large increase is shown. Since 1910 Alabama has increased her other cattle 57 per cent; Arkansas, 12 per cent; Florida, 28 per cent; Georgia, 13 per cent; Louisiana, 31 per cent; Maryland, 11 per cent; Mississippi, 21 per cent; South Carolina, 16 per cent; and Virginia, 12 per cent.

The campaign for more hogs, with the splendid demonstrations put on by the pig-club boys, has greatly advanced the hog industry in the Southern States. Cooperative carload shipments, fostered by the county agents (see p. 44), had a very distinct effect in stimulating this industry. Since 1910 the total number of hogs in the Southern States has increased 31 per cent. Of the 20 highest States in point of hog production in the United States, 10 are Southern States. In the production of hogs Georgia is exceeded only by the big hog-producing States of Iowa, Illinois, Missouri, Nebraska, Indiana, and Ohio. The percentage of increase since 1910, when the county-agent work first became effective in the South, is shown by the following figures: Florida 86.7 per cent, Mississippi 76.6 per cent, Alabama 75.5 per cent, Georgia 70.6 per cent, South Carolina 58.8 per cent, Maryland 43.7 per cent, Virginia 42.1 per cent, Tennessee 41.5 per cent, West Virginia 33.8 per cent, and North Carolina 25.9 per cent. In comparison with these, Iowa increased 44 per cent, Illinois 22 per cent, Missouri 11 per cent, Indiana 29 per cent, Ohio 37 per cent, and Nebraska 23 per cent.

Some idea of the great agricultural change taking place in some of the Southern States may be seen from a comparison of the figures for 1910 and 1918 in a State like Alabama, which has probably under-

gone as great a change as any other section. Speaking roughly by average acreage per farm, from the figures of the Census and the Bureau of Crop Estimates, we find this to be the situation: In Alabama the acreage in cotton per farm in 1909 was 18 acres, in 1918 it was 10 acres. In 1909 the acreage in corn was less than 10 acres per farm; it is now 18 acres per farm. The acreage in hay and forage for 1909 was less than 1 acre per farm; it is now 6 acres. The acreage in peanuts was less than one-fifth of an acre; it is now 2.9 acres per farm. The acreage in cowpeas was less than one-third of an acre; it is now 2 acres per farm. The velvet bean was scarcely known in Alabama in 1909 and no acreage is reported; in 1918 the average is just short of 4 acres per farm and the production 402,000 tons. The acreage in sorghum for sirup has increased nearly seven-fold and the production is more than ten times as great. The sugarcane acreage has doubled and the production of sirup increased 166 per cent. Acreage in Irish potatoes has increased 133 per cent, oats have more than doubled in production, and the production of wheat increased ten times. The number of hogs per farm has doubled. All this has taken place within the short space of 9 years. While no other State, with the possible exception of Mississippi, has made so great a record, this is given as an index of what has taken place in southern agriculture.

DEMONSTRATIONS.

The corner stone of the county-agent work in the South is the actual demonstration conducted by the farmer on his own land with the help of the county agent and the specialist. More often than not the demonstration is on a community basis, that is, the farmer conducting the demonstration does so for the purpose of illustrating better practices to himself and to his neighbors. The effect of the demonstration is often very materially increased by the fact that neighbors are copying the practices on their own farms. The total number of acres in crop demonstrations in 1918 was 3,207,848. The total number of farmers demonstrating was 317,509. There appears to have been a slight decrease in the total number of farmer demonstrators; but altogether, considering the great tax on the county agent's time under war conditions, the maintaining of a large number of actual demonstrations is a compliment to the force in the field.

The largest acreage in demonstrations with one crop was in corn. More than 70,000 demonstrators cultivated 774,449 acres under special instruction, with an average yield of 35 bushels per acre, more than doubling the average of the whole territory.

There was a great increase in the number of wheat demonstrations. In 1917 there were 19,741, while in 1918 there were 50,310

such demonstrations on a total acreage of 317,948 acres, the average yield being 19.7 bushels per acre.

There was also an increase in rye and peanut demonstrations.

Orchards.—There were nearly four times as many demonstrations in orchards in 1918 as in the year before, there being 19,789 demonstrations with a total number of 705,690 trees. County agents gave advice and counsel regarding pruning, spraying and otherwise treating 45,716 orchards, involving a total of nearly 5,000,000 trees.

Live stock.—In 1918 the county agents assisted farmers in bringing in 4,395 head of horses and mules, and, with the assistance of specialists, conducted 859 feeding tests, involving 3,821 animals. They helped bring in 12,647 head of pure-bred dairy cattle and 14,997 grades. They helped the specialists in dairying to conduct 1,052 feeding demonstrations, involving 19,200 animals. Outside of the special work in the removal of cattle from the drought-stricken region of Texas and Oklahoma, they assisted in bringing in 17,807 head of pure-bred beef cattle and 40,183 head of grades. There were 805 feeding demonstrations with beef cattle, with a total of 28,317 head involved. The county agents started 2,195 herds of beef cattle. They assisted farmers in bringing 42,864 head of hogs into the South for breeding purposes, and helped specialists to conduct 7,884 feeding demonstrations, involving 71,901 hogs. The special campaign for increased hog production asked for by the Government was conducted in all States. The allotted percentages of increase were fairly well met, Mississippi and Tennessee leading, each with a 20 per cent increase. The agents helped bring in 10,775 pure-bred sheep and goats, and 69,862 grades, and conducted feeding demonstrations on 367 farms, involving 8,026 animals. In addition, they started 3,526 new flocks.

Poultry work.—County agents assisted specialists in conducting poultry demonstrations on 4,623 farms, involving the feeding of 474,397 birds.

Live-stock diseases.—To help farmers protect their herds against live-stock diseases and pests the county agents induced farmers to secure the treatment of animals for diseases, as follows: 2,391,842 head of cattle and 2,299,661 hogs. In this they personally treated 568,167 head of hogs for cholera while administering either the simultaneous or serum treatment, in most instances under authorization of the State live-stock sanitary boards. They induced farmers to have 43,396 head of sheep and 43,242 head of horses and mules treated for diseases. The grand total of live stock so protected was 4,778,141 head. In addition to this, they helped procure the building of 2,219 dipping vats and 3,803 silos.

Tick eradication.—The Bureau of Animal Industry, in cooperation with the various State live-stock sanitary boards, has been conducting

an intensive campaign for cleaning the South of cattle ticks. There were released from quarantine 67,308 square miles of territory during the year. More than half of the original quarantine area is now released. Mississippi was declared tick free and South Carolina expected to be released December 1, 1918. County agents everywhere have assisted the specialists in stocking the country with improved animals after the ticks have been eradicated.

Manure, fertilizers, and lime.—The county agents conducted 63,085 demonstrations in the proper care and saving of manure on farms, estimated to involve over 10,000,000 tons. The county agents assisted farmers and farmers' organizations in the cooperative purchase of lime and in lime demonstrations, involving practically 1,000,000 tons. They gave specific advice to 223,979 farmers regarding the use of fertilizer and conducted 11,665 specific demonstrations. They also induced 2,156 communities or organizations of farmers to purchase fertilizer cooperatively. The value of fertilizers so purchased by these organizations was \$3,630,195, and the estimated saving due to cooperative purchasing was \$532,106.

Gardens.—A part of the general work in the Southern States in 1918 was the campaign for home gardens. Other forces were in the field with much publicity material on the same subject. County agents, however, organized this movement in practically every county in 1918, and the success of the movement was due mostly to them. Special agents in charge of the garden work were appointed for the States of Alabama, Georgia, Louisiana, Maryland, North Carolina, Oklahoma, South Carolina, Tennessee, and Virginia. In all of the other Southern States the specialists in horticulture and the county and district agents conducted the campaign. Under war conditions this campaign was definitely aimed at city and town gardens as well as rural gardens. It is difficult to estimate the total number of persons reached by this campaign for the reason that some of the States did not keep any careful record. Records were obtained from some of the smaller States. Figuring on these as a basis and with much discounting of results, the figures would tend to show that a total of more than 3,000,000 gardens in the South were the result of this campaign.

Cooperative marketing and purchasing.—The criticism often made that the agricultural colleges, the county agents, and the United States Department of Agriculture put all of their emphasis on production and are not assisting the farmers with the difficult problems of marketing may be answered by saying that the county agents have everywhere worked with bodies of farmers organized for the purpose of purchasing farm supplies and marketing farm products. Where the marketing problem has been critical, the county agents have not hesitated to give immediate assistance to farmers

and farmers' associations in organizing on the proper basis for making purchases or marketing products. The South is just building its new agriculture, and in this building many difficult problems regarding the marketing of the new products have arisen. All of the extension forces have realized that it was necessary to help farmers to solve these problems. This the marketing specialists and county agents are doing. The Bureau of Markets of the United States Department of Agriculture has a specialist in marketing, either in direct or very close cooperation with the extension forces of the State colleges in the following States: Virginia, North Carolina, South Carolina, Georgia, Mississippi, Louisiana, Arkansas, Tennessee, and Kentucky.

In Virginia the work is located with the State department of agriculture, but the agent cooperates with the county agents. In North Carolina it is in cooperation with the State extension service through the State division of marketing. In South Carolina, Mississippi, Louisiana, Tennessee, and Georgia the specialist is a definite part of the extension service. In Alabama and Texas there is special work in marketing, conducted in cooperation with the Bureau of Markets and additional marketing effort, conducted directly by the colleges. In Florida and Oklahoma the State divisions of marketing have been of considerable assistance.

There have been many reasons for greatly extending marketing efforts, as for example, the increased production of hogs and cattle in the South, the necessity for organizing new systems to take in farm products locally produced and distribute them to local markets, the increased production of food and feed which had to be distributed through local organizations, the drought conditions in western Texas and Oklahoma, and the Government sale of nitrate of soda.

The most extensive purchasing effort was the cooperative purchasing of feed and forage by organizations of farmers of western Texas and Oklahoma. The third year of continued drought found the people of that section almost destitute—in much of that territory there was no agricultural production. Feed and forage necessary to sustain the live stock became a matter of life and death. Two distinct acts paved the way for the work here reported:

First. The locating of a representative of the Bureau of Markets and the Texas Agricultural and Mechanical College at Fort Worth, Tex., to act as a collector and distributor of information on prices and sources of feed and forage. This was done on recommendation of a special committee of the department after investigation in an effort to create new competition in the field and permit farmers of western Texas to have the largest possible information on sources of supply, prices, etc. A market news service was maintained for this purpose and sent to the county agents in all counties.

Second. At the request of the Department of Agriculture, concurred in by the Food Administration and other forces in Washington, the Railroad Administration inaugurated a half freight rate on feed and forage into counties in western Texas and Oklahoma for distressed cattle, and requested the agricultural colleges and the Department of Agriculture to permit the county agents to make the necessary certification to entitle the consignee to the benefit of the half rate. County agents and others assisted the farmers in organizing into groups for the cooperative purchase, in making the proper transaction through the banks so that the deal was actually made between the groups of farmers in Texas and the sources of supply in States.

The total number of carloads shipped into Texas under the half rate amounted to 4,871. The estimated saving in freight alone was \$259,308.90. If we include the shipments in, to which the rate did not apply, and the cooperative marketing of products from east Texas counties, in other words, practically all of the cooperative marketing and purchasing inaugurated by the county agents in Texas, the total is 6,527 carloads, and the estimated value of the products so purchased or marketed is \$6,640,833.12, while the estimated saving, including saving on the freight rate, is \$1,155,622.15.

In Oklahoma the report is not quite so definite as to carloads. The actual number of bushels of various kinds of feed and tons of hay are given for only a part of the State, but the total value of feed and hay purchased in carload lots is given at \$2,093,960.25, and the saving to the farmer at \$211,502.

The county agents report that farmers are much interested in this work. Its educational value probably far outranks the mere saving for this year. The farmers have gained in knowledge and experience in cooperative effort and have advanced far along a road from which they will not easily turn aside.

In Alabama the greatest effort of the extension service was in the marketing of hogs and cattle in carload lots, where hog-selling associations were organized and held regular hog-sale days. On these days the hogs were graded by experts and sold to the highest bidder. Care was taken to advise and secure a large number of bidders. Thus far this work has been instituted in 31 towns in the southern part of the State. These 31 associations sold within the year 671 carloads of hogs, the selling price of which was \$1,147,980.81. A careful investigation showed these prices to average \$1.77 per hundredweight higher than local prices paid for similar hogs outside the sale days.

In Mississippi the organization work has a pretty strong tendency toward cooperative marketing and purchasing, especially marketing, as Mississippi now has excess products for sale aside from cotton.

During the past year the county agents helped organize and market cooperatively the following carload lots of farm products: 1,500 carloads corn, 416 carloads hogs, 275 carloads cattle, 10 carloads poultry and eggs, 111 carloads sorghum sirup, 300 carloads Irish potatoes, 400 carloads sweet potatoes, 100 cars peas, 25 cars peanuts, 20 cars sorghum seed, 180 carloads of miscellaneous farm products. The total value of products so marketed amounts to \$3,306,183. The increase over local prices brought to farmers through this cooperation ranges from 10 to 40 per cent. This is probably the greatest marketing effort ever undertaken under plans of a State extension service. It has not been thoroughly worked out, but comes as near containing the elements of a State-wide system of marketing as any piece of work yet done. The farmers still need education and experience, and the organizations need development in their business management.

This cooperative shipment work in Mississippi had its greatest value in the educational side—it was an effective demonstration of the value of quality. The sales were so arranged that the poorer grade stuff got only its correct rating as compared with the good grades. When the farmer saw his price compared with his neighbor's price for good hogs, no lecture was necessary to convince him of the value of good quality in farm products.

The total figures for the cooperative purchasing and marketing work in the 15 Southern States appear to be approximately as follows:

Fertilizer, lime, and the like, purchased amounted to 64,382 tons, valued at \$1,906,122, exclusive of nitrate of soda; carloads of cattle marketed 751, valued at \$1,034,295; carloads of swine marketed 1,530, valued at \$2,748,948; corn, wheat, and other grain marketed 1,395,960 bushels, valued at \$1,590,448; miscellaneous agricultural products marketed, valued at \$2,631,985. Many smaller items are omitted. The grand total value of marketing and purchasing work of county agents is \$17,156,232, and the saving \$2,834,067, or about 16 per cent.

WAR WORK.

The war work of the county agents in the Southern States during the year 1918 covered, in a sense, almost all of the work; in other words, the production of food, conservation of food in storage and in process of production, aiding disorganized systems of marketing, etc., are distinctly war work. Under this heading, however, certain specific lines of work extraordinary in character and somewhat unusual for county agents to perform should be reported. Among these items may be detailed the following:

The administration of the half rate on food and forage for drought-stricken regions of west Texas and Oklahoma, already mentioned

under marketing and purchasing supplies, and cooperation with the Bureau of Markets in administration of the news service and co-operative purchasing of food and forage for west Texas and Oklahoma farmers.

The Congress of the United States passed an emergency act, providing for \$10,000,000 to be spent in the purchase of nitrate of soda to be sold by the Department of Agriculture direct to farmers each year of the war and to be used as a revolving fund. The Bureau of Markets of the Department of Agriculture was placed in charge of the administration of this act. County agents were used to help perfect the local organization and did a great deal of work in obtaining and transmitting orders, and handling other details of the business. They assisted the Bureau of Markets in selling and distributing 71,599 tons of nitrate of soda during the winter and spring of 1917-18, and 145,000 tons in the fall and winter of 1918-19.

Owing to the drought conditions in Texas and Oklahoma and other Western States, the President of the United States, through the Treasury Department, made available a fund of \$5,000,000 to be lent to farmers for the purchase of seed grain in the fall of 1918. The loans were actually made through the farm-loan banks, but a representative of the Department of Agriculture took charge of obtaining of applications. The extension services in Texas and Oklahoma cooperated and the county agents were the officers through whom the vast majority of all applications were actually obtained. In Oklahoma there were 4,449 applications, amounting to \$900,128, while in Texas there were 1,568 applications and a total of \$340,708, making a grand total of \$1,240,836.

The extension services of the State colleges and the county agents cooperated with the seed-stocks committee of the Department of Agriculture and seed committees of the States, generally appointed by the extension services, in locating stocks of seed and distributing to farmers information on sources of seed. This was done throughout the entire South. In Texas and Oklahoma special funds were provided by Congress for the purchase of seed and sale directly to farmers at cost. County agents assisted in the purchase and sale of this seed through a special representative of the department. The locating of seed wheat and rye, and of cowpeas, soy beans, and velvet beans was exceedingly helpful. Farmers were assisted in obtaining large quantities of peanut seed by getting the crushers or wholesale storage houses to release seed in carload lots under pressure of the war. A special piece of work was done in Kentucky; the injury by frost to the seed corn in the early fall of 1917 imperiled the quality and quantity of good seed on hand in that State. This situation was similar to the aggravated situation in the northern corn belt. In this campaign, in the spring of 1918, practically

every extension worker in the State of Kentucky participated. The county agents tested over 12,000 samples of corn and persuaded over 37,000 farmers to test their own corn. They established 479 testing centers at schools, banks and other places where 15,000 tests were made. Over 29,000 bushels of corn were thus tested for home planting and 140,000 for sale. The seriousness of the situation was discussed by telephone or otherwise with 64,000 farmers. Practically 46,000 bushels were sold by the farmers after testing. The saving to farmers of the State on the price of seed alone is estimated at \$170,764. In this survey they found 255,000 bushels of corn in process of damaging in cribs, due to excessive moisture and freezing. The entire State was aroused to a realization of the danger of planting defective seed, a large proportion of the farmers were supplied with good seed, and the acreage which would have been planted was actually increased by nearly 60,000 acres. In Virginia a similar piece of work was done with fine results.

In addition to this the county agents were called upon for many unusual services. Their cooperation with councils of defense has already been mentioned (p. 27). They cooperated with the Treasury Department in every Liberty loan and War Savings Stamp campaign during the war. County agents spoke on the subject, acted on committees, helped to solicit subscriptions from farmers, and in many instances took from the local banker committees the responsibility of carrying the rural part of the campaign. In some instances the campaign among farmers failed in the early part of the loan, but was "put over" in splendid shape after the county agents took hold of it. The county agents themselves and every extension worker contributed liberally to the Liberty loans. Two hundred and fifty thousand dollars worth of Liberty bonds were bought by extension workers, including both men and women, in the Southern States during the year. The contributions from the State of Mississippi are not included in this because no report was received. The county agents also cooperated in every Red Cross drive, in Red Cross sales, membership campaigns and the like, and in the United War Work drive in the fall of 1918.

They were called upon for much work in cooperation with the War Department, especially in the administration of the selective service or draft act. Either personally or by committees formed by the county agents they assisted the agricultural representatives on the district draft boards in the whole matter of determining the deferred classification of persons engaged in agriculture. This involved a very great deal of work on their part. They likewise assisted the local draft boards and the War Department in the approval or disapproval of applications for temporary furloughs from the Army to engage in agricultural work. In numerous instances

they assisted the camp commanders and the Quartermaster's Corps in the establishing of war gardens at Army camps. They helped organize a system of direct sale of horses and mules from farmers to the Quartermaster's Corps during a short period of the war.

They assisted the Food Administration in many ways, such as the campaign for conservation of wheat in thrashing. They carried the messages of the Food Administration regarding the restrictions in the use of wheat, meat, etc., to the rural people. They took up the entire burden of conservation of crops on farms, in process of harvesting, etc., and before being placed in the channels of trade.

With the help of the States Relations Service and the Bureau of Markets of the Department of Agriculture, they obtained rulings of the Priority Board regarding shipments of supplies, perishable products, breeding stock, and the like, and often relieved distressing marketing conditions in the field by promptly telegraphing the department and obtaining the necessary rulings from the different war boards of the Government.

This report would be incomplete without some mention of the sacrifices made by these men during the period of the war. June 30, 1917, there were only 860 county agents in the Southern States. The total number in the extension services in the South at that time was about 999. Of these, 289 entered the Army, 26 entered the Navy, and 13 accepted special assignments for other war work in Washington. One county agent rose to the rank of a major in the Artillery Corps and many others served as captains and lieutenants in various branches of the military service. The list of those who lost their lives or were wounded in the service of their country has not yet been obtained. Many are now returning and every effort is being made to place them in good positions for which their training well fits them. Altogether this is a record of which the State colleges and especially the county agents may well be proud. Little did those few men who struggled in 1904 in east Texas realize that they were establishing the germ of a nation-wide system which would make such a great contribution to the defense and protection of the people of the United States in time of world war.

NEGRO WORK.

During 1918 great progress was made in extension work designed especially for negroes. In discussing this work it should be understood that practically all the white county agents gave instruction to negro farmers and furnished them information and advice as freely as they did the white farmers. For example, 17,153 negro farmers cultivated crops under the special instruction of the white agents as demonstrations for themselves and their neighbors. The acreage in these demonstrations totaled 101,269 acres. The white

agents taught the negroes to save seed, assisted them in bringing in 224 head of pure-bred beef cattle, 737 head of pure-bred dairy cattle, 2,543 pure-bred hogs, and 2,992 pure-bred poultry. They organized 331 community organizations of negro farmers with a membership of 8,780; they interested these communities in the building of 426 new homes, 736 new barns, 217 new schoolhouses, and 132 new churches. White agents also helped in the boys' club work among negro boys.

There were 142 negro men agents in the Southern States, the largest number being in Virginia with 22, Alabama being second with 21, Kentucky having the smallest number with 2, while West Virginia had none. There were 175 negro women employed in the rural work for negroes and 19 in city work. Virginia had the largest number of negro women employed with 48, followed by Georgia with 30, and Arkansas with 25. There were none in Kentucky, South Carolina, or West Virginia. Many of the negro women were employed in extension work only a part of their full time.

The total number of negroes reached by these agents is difficult to estimate. In Virginia, Alabama, and Texas the counties contribute freely toward the salaries of the negro agents. In many counties they have advisory committees of negro farmers, and where the best work is done the negro farmers are organized into community associations for general improvement.

In Alabama there are 384 community clubs with a membership of 7,596; in Virginia there are 225 with a membership of 4,225. In Virginia the farm advisory boards in the counties consist of negroes who are representatives from these community associations. As a rule the negro agent is appointed as assistant to the white county agent.

In Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Louisiana, and Texas the work is in close cooperation with the negro land-grant colleges. In Alabama the headquarters, however, are at Tuskegee and the work is associated with the Tuskegee Normal and Industrial Institute. This cooperation is perfected by the white land-grant colleges and on their initiative, and the cooperation between the negro land-grant colleges and the department is through the white land-grant colleges, so that the arrangement within the State is perfected by the people of the State.

The total number of negro women, girls, and boys reached by negro extension workers is given on pages 50 and 60. It is impossible to give the totals for the work among negro farmers. A few examples must suffice. Negro agents in Mississippi made 22,638 visits to farms and had over 8,000 calls at their offices. In Alabama the farm visits by negro agents were 23,772 and office calls about 8,000. The meet-

ings held especially for negroes were attended by 197,441. In Virginia the farm visits were 13,327 and the office calls 1,100, while the meetings were attended by 136,944 persons.

A very interesting and useful feature of the negro work was the organization of the "U. S. Saturday Service League" designed and perfected by the Alabama negro agents to influence their race to render full six days' service during the war when all labor was scarce. The plan was a patriotic league with a volunteer membership and pledge, with badges and certificates of award. This plan was copied in a number of the other Southern States and the results seem to have been beneficial even beyond the pledged membership. Ultimately many other forces and many public men appealed to the negro people along the same line. About 10,000 negroes were reached in Alabama alone.

The work with negroes made distinct progress during 1918. All of the field workers have become convinced of the necessity of giving special attention to this branch of the work. The increase in the number of employees and the effectiveness of the work itself are particularly gratifying.

HOME DEMONSTRATION AND GIRLS' CLUB WORK.

The home-demonstration work was organized for the purpose of providing the same service for women and girls on the farm that the county agent performs for the men and boys. It is organized as a definite part of the State extension service and represents the co-operative effort of the State agricultural college and the United States Department of Agriculture and counties and communities. In the majority of the States in the South the home-demonstration division of the extension service carries the entire extension work for women and girls. The work is organized on much the same basis in all the States. There is a woman in charge of the work in every State. In some States, as in Virginia, Tennessee, North Carolina, South Carolina, Georgia, Florida, Mississippi, Louisiana, Texas, Oklahoma, and Arkansas, she is practically an assistant director, responsible to the director of extension, and in charge of all the work for women and girls. In the other States she is in charge of the home-demonstration work for women and girls but may report through some other officers to the director.

PERSONNEL AND ORGANIZATION.

During 1918 there were 883 county home-demonstration agents: 175 negro home-demonstration agents, located in counties with large negro population; 83 white urban agents and 19 negro urban agents. These latter were paid entirely from emergency funds

provided by the food-production act. The supervisory force consisted of 57 district and assistant State agents and 15 assistant directors or State home-demonstration agents in charge. The total number of women specialists is 13. The county home-demonstration agents also received assistance from men specialists in horticulture, pathology, dairying, poultry raising, and other subjects.

The problem of organization made rapid progress. All extension agents recognize that an organization in the community, representing all the activities, is the ideal organization. The home-demonstration work has been gradually fitted into the county organization for extension work. In many counties either a women's section of the county agricultural council has been organized or a women's advisory committee has been established. In all cases the work is founded on community effort. The home-demonstration work is organized on the basis of clubs of women and girls, often, though not always, representing a community organization. The total number of clubs in the 15 Southern States this last year was as follows:

Six thousand, three hundred and ninety-one clubs of rural women representing a regular enrollment of 325,229, and an emergency enrollment of 1,518,746 women; 9,028 girls' clubs with a regular membership of 146,102 and an emergency enrollment of 759,373; 1,563 clubs for rural negro women, with a membership of 37,913, and 1,962 clubs for negro girls with a membership of 50,995. There was an emergency enrollment of negro women and girls in these clubs of 247,143, of which about one-third were girls and two-thirds women. In addition to these, there were 1,179 organized communities of city and town women in the urban work, with a regular membership of 119,218, and an urban enrollment among negro women in cities and towns of 224 clubs with a membership of 1,035. In addition to these, there were 2,751 poultry clubs of white women and girls, with a membership of 63,481, and there were 13,434 negro women and girls taking poultry work. This makes a grand total of 23,096 clubs of women and girls, with a total regular and emergency enrollment of 3,283,669. A little over 2,000,000 of these are women and a little over 1,000,000 are girls. This represents the total number of people enrolled, but does not represent the total number of persons reached, as it does not include those in attendance upon lectures, extension meetings, demonstrations, exhibits, etc., who were not enrolled in some club.

Such a large organization naturally resulted in many interesting and constructive pieces of organization work. In all of them the home-demonstration agent was represented and in most of them she was the leading figure. During the year 1918 in the 15 Southern States there were established 855 community canneries; 639 com-

munity demonstration kitchens, where women gathered to receive instruction; 131 community drying centers; 137 rest rooms in cities and towns for the benefit of farm women; 173 eggs circles for cooperative sale of poultry and eggs; 211 cooperative breeding associations engaged in the improvement of poultry; and 20 free curb markets were organized where farmers and farm women and girls come to dispose of their products directly to housekeepers.

It should be understood that in much of this organization work, and the cooperative work as well, the county home-demonstration agents had the assistance and support of county agricultural agents, specialists, district agents and other representatives of the college extension staff and of the Department of Agriculture.

PLAN OF THE WORK IN 1918.

The whole purpose of the work in 1918 was to reach, through organization, the largest possible number of women and girls and give them direct assistance in problems of production, conservation and utilization of food, and in the preservation of health, the prevention of disease, the introduction of labor-saving devices and home conveniences, the beautification of the home and its surroundings, cooperative and individual marketing of products, and thrift and saving from the family income. This program included gardening, canning, drying, brining; production of butter and cheese for home use and for market; production and marketing of eggs and poultry; purchase and home manufacture of labor-saving equipment; home management; utilization of home-produced and other foods for a wholesome diet; use of substitutes for wheat and meat; saving of wheat, meat, sugar, and fats; conservation of clothing; and development of community enterprises, such as community canneries, community drying plants, community demonstration kitchens for instruction, curb markets, and cooperative marketing of eggs and poultry, garden products, canned goods, butter, and cheese.

In all of this work there were three main objects: (1) Production, (2) economy and thrift, and (3) health and happiness. Considerable attention was also given to recreation, social enjoyment in the club meetings, and the general improvement of rural conditions.

GARDENING; AND CANNING, DRYING, AND OTHER METHODS OF PRESERVATION.

Among the chief features of the home-demonstration work of the South are gardening; and canning, drying, and otherwise preserving food for future use. A great war-time campaign was conducted and the results of the previous year almost doubled. The total number of containers of vegetables and fruits canned during

1918, under the direction of the home-demonstration agents, was 64,604,531, valued at \$15,566,456.15. The women enrolled as regular members of clubs, whose work was intensive and thorough, put up 23,528,345 cans, while the regular enrollment of girls put up 10,497,768 cans; 2,654,607 cans are to be credited to the urban work and 19,334,583 cans to the emergency enrollment. Negro rural women put up 1,073,663 cans and negro girls 430,314 cans; the negro city women 456,470 cans and the negro emergency enrollment 2,344,776 cans. A very large proportion of the vegetables canned were produced in the home gardens and from the tenth-acre plats of the girl club members.

Attention should again be called to the fact that 855 community canneries were established for cooperative effort on a community basis. Ten years ago modern methods of canning were almost unknown in the South. No greater contribution to the food supply of that section was made during the war than through this great effort of the women and girls.

Besides the millions of home gardens established, 91,000 demonstrations of winter and perennial gardens were conducted by women and girls to illustrate all-the-year-round food production.

It is difficult to say what proportion of the emergency work should be credited to the girls and what proportion to the women, but it is probable that about one-third of the emergency canning should be credited to the girls. In no other year in the history of the work in the South has so much been done along this line, and the results are to be attributed to the enthusiasm and energy of the agents and to the wonderful organization and devotion of the women and girls who took part in the work.

Meat and fish.—A considerable advance was made in the home canning of meat and fish. The women and girls in the organization above mentioned put up 157,605 cans of meat and fish worth \$56,463.34. This was special work requiring a very high degree of care and skill, the extension workers taking the position that no canning of this sort should be done except with steam-pressure canners.

Drying.—The work in home drying of fruits and vegetables for future use, initiated first in the year 1917 owing to the scarcity of cans, advanced very materially during the season of 1918. The total amount of dried fruits and vegetables prepared and stored by all forces mentioned above was 8,982,787 pounds, estimated to be worth \$1,846,625.56. The women established 131 community central drying plants for community drying.

Brining and pickling.—The Bureau of Chemistry of the Department of Agriculture cooperated in this work by detailing specialists

from time to time to give instructions in pickling and brining vegetables. Practically all of the home-demonstration agents received careful instruction from these specialists. The results during the year were beyond expectations, about 1,006,222 gallons of vegetables, valued at \$382,808.73 having been preserved and saved. Rural women in the regular enrollment put up 336,872 gallons, and in the emergency enrollment 547,292 gallons. The balance was put up by the girls, and a small amount by the negro enrollment.

DAIRY WORK.

Much credit is due to the fine work of the dairy specialists, representing the dairy divisions of the State agricultural colleges and the Dairy Division of the Bureau of Animal Industry of the Department of Agriculture, in enabling the home-demonstration agents to increase greatly the dairy work with farm women and girls in the Southern States. In 1917 only 83,568 pounds of butter were made under the instruction of the home-demonstration agents by women and girls in the Southern States. In 1918 the work has covered a much wider range. The care of milk, the value of milk as food, the making of good butter and cheese in the home, and the use of these as a part of the family diet, as well as the sale of the surplus, have been strongly emphasized. In 1918 the agents' reports show that the women enrolled in the work produced 16,507,711 pounds of butter. A considerable proportion of this butter was sold locally and brought an average of 17 cents per pound above the market price for ordinary butter. The butter work was conducted mainly with women.

Much work was done in the home manufacture of cheese. By cooperation with the Dairy Division of the Bureau of Animal Industry special extension agents were given definite training in the making of cottage cheese and placed in each of the Southern States. The women enrolled, under the instruction of the county agents and these specialists, produced 939,603 pounds of cottage cheese. Some work was done in the home making of other types of cheese, such as cheddar cheese, 31,828 pounds of which were made in the homes under the instruction of the specialists and agents. Much of this homemade cheese was used in the campaign for greater use of meat substitutes.

One of the most important problems of the South is the increase in home dairying. Better milch cows and a more universal use of milk, homemade butter, and cheese in the daily diet are strongly advocated. Gratifying progress is being made in instructing the women and girls in this important part of the farm and home work.

POULTRY AND EGGS.

As a part of the program of production, conservation, marketing and thrift, much emphasis was given to the care, raising, and marketing of both poultry and eggs by the women and girls on the farms. This has been one of the most attractive and interesting pieces of work. The home-demonstration agents had the cooperation of poultry specialists, the county agents, and other extension forces in initiating and conducting this work. In 1917 there were organized among the farm women 103 egg circles and 39 poultry-breeding associations. During 1918 there were organized 173 egg circles and 211 cooperative poultry-breeding associations. These organizations raised approximately 1,592,357 chickens and marketed 575,593 dozens of eggs cooperatively and 198,427 dozens of eggs individually. The value of the eggs marketed runs a little over \$300,000. They marketed 1,148,738 pounds of poultry valued at \$311,558.82. The agents also report 130,297 dozens of eggs preserved in water glass.

Fifty of the egg circles and 117 of the poultry-breeding associations were among the negro women and girls. A very large proportion of their products were kept for home use. The proportion of eggs and poultry marketed was small, being 6,604 dozen eggs and 7,926 pounds of poultry. The saving was largely in the production of meat and eggs for home consumption.

The poultry work is of special importance in the South, because the average production of poultry per farm there has been entirely too low. The production of meat and eggs for the use of the family not only contributes to the family income by furnishing cheap and wholesome food, but avoids the necessity of purchasing so large a proportion of high-priced cured meats. In this work the women and girls of the South are contributing to "Safe farming," as they are in the dairy work, and are carrying out the program of production, conservation, utilization, thrift, and health.

CONSERVATION.

The home-demonstration agents of the South, with their enrollment of women and girls, carried forward during the season of 1918 a great campaign for conservation. There was very close and intimate cooperation between the home-demonstration work and the Food Administration. The Food Administration outlined the things to be conserved but left to the home-demonstration agents and the extension forces very largely the problem of giving the people definite instructions regarding methods of conservation, substitution, and the like. In 10 of the Southern States the State agent or assistant director in charge of the home-demonstration work was appointed

by the Food Administration as the home-economics director for that organization. Under this arrangement she received no salary from the Food Administration but was paid some traveling expenses in coming to conferences in Washington, and she used her agents and the enrollment of women and girls in the home-demonstration work to carry out the economies outlined by the Food Administration.

In December, 1916, the Office of Extension Work in the South, believing that the problem of conservation of wheat was a very important one and would soon become more so, borrowed from the Bureau of Chemistry a trained worker who had spent some years in testing mixed flours for baking. She was utilized in giving instruction to every home-demonstration agent in the South, at the colleges, and in group meetings, regarding the substitution of corn meal, corn flour, rice and rice flour, soy-bean meal, peanut meal, rye and barley flour, sweet-potato flour, Irish-potato flour, and other materials in place of wheat in the making of breads. So successful was this effort that in June, 1917, she was transferred permanently to the southern extension office. Publications were issued by the State agricultural colleges and the department and a very widespread campaign was conducted throughout the season of 1917. In 1918, with the more active cooperation of the Food Administration and the introduction of urban agents paid from emergency funds, this campaign was greatly extended. Instructions were given through bulletins, publications, demonstrations, and otherwise to a large proportion of the city, town, and country women in the South. Through the cooperation of these forces many sections of the South, in the spring of 1918, went on a nonwheat basis and in a number of cases by public and unanimous action surrendered all of the wheat flour in existence in certain counties and shipped it to the Food Administration. In a large portion of the South very little wheat flour was used from the early spring of 1918 until after the harvesting season, when the Food Administration began relaxing the rule. A fair share of the credit for the ultimate success of this campaign should rest with the home-demonstration forces of the State extension services because of their early preparation and thorough organization for this work. The Food Administration in their later work in the South profited greatly from this effort.

In the same way the campaign for the saving of meat was carried into every county and town where there was a home-demonstration agent. This consisted of the substitution of cowpeas, soy beans, garden peas and beans, cheese, etc., in place of meat, and in increasing the production of poultry and eggs as a means of relieving the shortage of meat.

The home-demonstration forces also assisted in the campaign for the saving of sugar and fats. In the saving of fats the campaign

was mainly one of education and demonstration, while the campaign for the saving of sugar was a combined effort of the home-demonstration agents and the county agents. The program for county agents, already referred to, emphasized the necessity for home production of sirup. The quantity of sirup made both from sorghum and from sugar cane was greatly increased during the season of 1918, resulting in the home production of wholesome sweets and a reduced consumption of sugar purchased on the markets.

HOUSEHOLD CONVENIENCES.

As a part of the program for improving rural conditions and helping to solve the problems of the farm women and girls, a good deal of work has been done toward introducing labor-saving devices and equipment of all kinds in Southern homes. In 1918, 6,837 fireless cookers were constructed; 864 families built homemade kitchen cabinets; 985 rural homes installed water systems; 3,671 homes were screened against flies and mosquitoes for the first time; homemade butter workers, paddles, and molds were made in liberal quantities; and thousands of other homemade conveniences were installed under the instruction of the agents. Many women were able to earn enough to afford to purchase conveniences, such as butter-making outfits, churns, milk cans, dairy thermometers, cheese presses, draining racks, canning outfits, etc. Better lighting systems were introduced into many homes. Great emphasis was placed upon the convenient arrangement of kitchens, the saving of steps, accessibility and convenience of water supply, firewood and coal, etc.

CONSERVATION OF CLOTHING.

During the season of 1918 steps were taken to assist farm women and girls in the problem of conserving clothing on account of the high prices of material. The home-demonstration agents in most of the States were given special instruction in making over, remodeling, mending, and otherwise conserving clothing, removal of stains, etc. One of the most interesting features of this work was that in many of the States the home-demonstration agents themselves "practiced what they preached" and were able to illustrate to the women and girls lessons in good management by exhibiting their own efforts toward remodeling of wearing apparel. Under their influence 7,711 dresses, among other things, were made by the girls in the club work.

HEALTH AND HOUSING.

Much of the work of the home-demonstration agents in the South has indirectly influenced personal and public health. The supply of fresh and canned vegetables, a more diversified diet introduced by

the home-demonstration work, the care of milk, the home making of butter and cheese, and a more constant supply of fresh meat, milk, eggs, and other wholesome foods has had a marked influence upon the health of the people. Likewise the screening of houses, destruction of flies and mosquitoes, protection of food against flies, and the like, have had their influence on the problem.

This report would be incomplete without mentioning the services of the home-demonstration agents of the Southern States in the Spanish influenza epidemic in the fall of 1918. With a great shortage of doctors and nurses and a lack of hospitals and equipment for handling this grave situation in many sections, the influenza ravaged the South from October, 1918, until the early part of 1919. In many sections the outbreak was peculiarly severe and the results appalling. Especially was this true of the rural districts. Early in the outbreak the extension forces had their work greatly interrupted through the prohibition against public meetings and the fears entertained by many of the rural people that the disease would be brought to the house by people visiting it. The vast majority of the home-demonstration agents volunteered their assistance early in the epidemic, and many of them performed very conspicuous service. The county home-demonstration agents took charge of local emergency hospitals, organized diet kitchens for furnishing food to helpless and prostrated families, served as nurses and dietitians for hospitals, and continued in almost day and night service during the severe periods of the outbreak. Their services were highly appreciated and brought letters of commendation from members of the Public Health Service, from physicians and nurses, and from a large number of other public officers and citizens in general. Much of this service involved personal danger and a great deal of hard work. The ability of the home-demonstration agents in organizing their own work was utilized in this emergency. In some instances prominent officers of the Public Health Service of the United States borrowed the home-demonstration agents and turned over to them the problem of organizing diet kitchens in counties or sections of States.

Considerable effort was made during the season of 1918 to assist farm families in improving the surroundings of their houses as well as house plans, convenient arrangement of new structures, simple means of beautification, and the like.

WAR WORK.

In addition to their regular duties the home-demonstration agents performed a great deal of work which was emergency in character and directly related to the winning of the war. They helped in every

Liberty loan campaign during the year. Many instances might be given in which the work of the home-demonstration agent, together with that of the county agent, "put over" the Liberty loan campaign in a county where the bankers and other workers had been unable to do so. They cooperated with the Treasury Department, local committees, councils of defense, and other agencies in this work.

What was done for Liberty bonds was also done in the War Savings Stamps, Red Cross, and United War Work campaigns and other patriotic endeavors. The agents also paid special attention to the giving of War Savings Stamps as prizes in the boys' and girls' clubs, and urged the members to invest their surplus savings and the money received from the sale of their products, in War Savings Stamps and Liberty bonds. They gave special attention to the home service work of the Red Cross, and cooperated with the Red Cross in helping soldiers' families in the collection of funds, in canvassing for membership, in local canteen work, and otherwise.

The home-demonstration agents cooperated with the Council of National Defense in patriotic endeavors of all kinds. In many of the counties the home-demonstration agent and the county agent were members of the county council of defense, and assisted in much of its effort through the utilization of the community and county clubs of women and girls. Personally the home-demonstration agents contributed very considerably to the purchase of Liberty bonds.

This brief report can not possibly convey the educational influence and the social and community spirit side of this work. Community singing has been a strong factor in the work. Games and amusements have not been neglected. Programs which are both educational and entertaining have been a feature of the club meetings everywhere. How much all of this has contributed to the enjoyment of rural life and how great its influence has been upon the minds of the people in the communities where it has served can scarcely be estimated.

In many of the short courses held for girls in rural sections much emphasis has been placed upon the recreational features of the work. In 1918 there were 691 county short courses for rural girls, attended by over 26,000 girls. There were 73 short courses held for girls on a State-wide basis during the season. At the county short courses 1,427 scholarships were awarded as prizes to the girls and 730 scholarships were awarded at the State short courses. Some of this work was also done among the negro women and girls. Thirty-five scholarships were awarded to negro girls as a result of this work. In a number of the States short courses for women were held also.

The home-demonstration agent with her office, her automobile, her equipment, her county advisory committee and community organiza-

tions. has found a permanent place in the extension work of the South. Along with the county agents, the home-demonstration agents have made a splendid record for the war period. In a general way it may be said that the home-demonstration agents are as firmly fixed in the minds of the public as are the county agents.

BOYS' CLUB WORK.

In the Southern States the club work as a whole is organized in every State into two divisions, boys' club work and girls' club work. The county agents have charge of the boys' club work in their counties and the county home-demonstration agents have charge of the girls' club work. There is no prohibition against boys' joining girls' clubs or girls joining boys' clubs, hence we find, for example, a number of girls competing in the work of pig clubs, and boys competing in garden clubs. Both boys and girls belong to the poultry clubs in many States.

In most of the States the girls' club work is administered through the State agent in charge of home-demonstration work, and the boys' club work is administered through the State agent in charge of county agents. Generally the latter has an assistant who is known as the State club agent.

The clubs are organized as unit organizations of boys. They elect their own officers and many of the clubs have regular meetings. The members of a club may choose any line of work offered by the club organization. This plan avoids the necessity of organizing a large number of different clubs in a community. As a general rule the most successful work is done where the community organization of farmers and their families decides, at the instance of the county agent or the State club agent, to make the boys' club work a part of the activity of the community. The types of work to be conducted by the boys are decided upon and generally relate closely to the principal problems of the community. This accounts for the large predominance of pig clubs in the work of the South. The different types of work taken up by boys in the agricultural clubs of the South during 1918 were corn, peanuts, potatoes, grain sorghums, wheat, beans, cotton, pigs, poultry, beef cattle, dairy cattle, and sheep. Farm-makers' clubs have been organized among the negro boys, with types of work similar to those for the white boys.

Requirements for the club work in the Southern States are that the boy shall be between the ages of 10 and 18; that he shall undertake a definite task, generally of good proportions, and, in crop clubs, not less than 1 acre in extent; that he shall belong to a club, follow instructions, keep a record and make a report. The value of the demonstrations conducted by these boys and the effect upon

farming generally can easily be noted in most Southern States. The boys' clubs have been of great value in "starting things." Effective use is made of club work by county agents and extension workers in inaugurating lines of work to help solve large agricultural problems.

Prizes, which are provided from various private sources, are generally educational in character, such as attendance upon short courses, and scholarships at colleges. Cash prizes during the past year were generally in the form of War Savings Stamps.

The 1918 club enrollment was very gratifying. The extension field workers have kept up the regular work for boys who are ready and willing to devote a good portion of their time to a definite task. The total enrollment for the year was 204,869 boys. Of this number, 21,153 were negro boys belonging to the farm-makers' clubs. In addition to the regular enrollment, every club was urged to enroll boys who were willing to undertake definite programs of production but could not promise to keep complete records or make as full reports as required of the regular club members. This emergency enrollment numbered 202,671 boys, of which number 5,000 were negroes in farm-makers' clubs, making a total regular and emergency enrollment of 407,540.

It should be noted that many of the emergency boys performed greater tasks than the regular club members, such as the raising of fields of corn, or taking charge of the poultry flocks or of the hog raising on farms. They received instruction to enable them to perform these tasks, but a majority of them made incomplete reports.

In 1918 the pig clubs led all others in membership by nearly 100 per cent. This was due to the great interest manifested by Southern farmers in hog raising. A large proportion of the pig-club boys raised litters of pigs from brood sows, thus making their work a material contribution to the pork production of the country. Notwithstanding the poor season for corn raising, the average production of corn in boys' clubs was 37.58 bushels per acre, at a cost of 47.3 cents per bushel. Sixty-two boys made more than 100 bushels of corn per acre. The average yield of potatoes per acre was 159.11 bushels, at a cost of 59 cents.

The live-stock clubs received a great deal of attention. Many boys made an average profit of over \$100. Boys in the live-stock clubs are taught to raise the crops necessary to feed the live stock as a part of their club endeavor.

The total value of the products of the boys' club work in the Southern States in 1918 is given at \$12,034,271.27.

County agents are constantly reporting the valuable leadership exercised in different communities by former members of boys' clubs who have become substantial young farmers and leaders in

their communities. The value of the club work as a means of solving difficult problems in production, organization and marketing, and of crystallizing the thought of the future at an important and impressionable period of his life can scarcely be overestimated.

SPECIALISTS.

• The efforts of the extension work center around the county agent. It is through him that the great store of information regarding better farm practice is carried from the United States Department of Agriculture and the State agricultural colleges and experiment stations to the large body of farmers scattered through the States. It is also through him that the unsolved problems arising on the farm are brought back to the experiment stations and the department for their solution. It is obviously impossible for the county agent to have enough knowledge of the various sciences necessary to solve offhand all of the problems arising in a county with its great variation of crops, live stock, soils, plant diseases, etc. That the county agent may meet these problems and be able to assist in their solution, each State maintains a force of specialists whose duty it is to furnish the county agent definite information on matters pertaining to their particular lines, which has been gleaned from training, education, experience, the study of results of experimental work, and from other sources.

It is very gratifying that as the extension work progresses a better understanding of the relationship between the specialist, the county agent, and other extension workers has developed with it. It is being more clearly recognized that there must be a definite interlocking of the efforts of all members of the extension force if the machine is to function to the greatest advantage. To this end, in practically all cases, the specialist and the county agent are planning their work cooperatively. The specialist maps out, in project form, various kinds of demonstrations designed to meet the problems arising in his particular line. The county agent selects from these projects those particularly applicable to his county. The farmer who conducts the demonstration is selected by the community club or volunteers his effort for his own good and that of his neighbors. The selection is approved by the county agent and the specialist.

Specialists have rendered splendid service by speaking and giving practical demonstrations at meetings, arranging and looking after exhibits at fairs, and assisting in the judging of these exhibits. In all of the States except Florida a force of specialists is maintained from State extension funds.

~ In all of the States specialists are employed working cooperatively with the various offices and bureaus of the United States Department of Agriculture and the extension service in the State. During

1918, 208 specialists were employed, a slight decrease from the previous year.

These specialists were employed on the following projects: Dairy industry—dairy live-stock demonstrations; animal husbandry—beef cattle, sheep, pig clubs, poultry clubs; animal diseases; horticulture; agronomy; forestry; plant pathology; entomology—beekeeping; farm management; farm engineering; marketing.

Of the above specialists, 73 were cooperatively employed with bureaus of the United States Department of Agriculture on dairying, live stock, pig clubs, poultry clubs, animal diseases, marketing, farm management, beekeeping. The remaining 135 specialists are employed by the States and paid largely from Smith-Lever funds.

DAIRYING.

Despite abnormal prices for cotton, high-priced feed, labor shortage, and an extremely hard winter, the dairy work in the South as a whole has not lost ground. There has been a shifting and changing of market conditions and a selling of cows in places and unrest in others which have upset old plans of work, but new avenues of interest have presented themselves and counteracted reactions.

The large demand for milk and cream, created by the establishment of cantonments in every Southern State has attracted many producers to turn from their regular markets, and also the demand and high prices for milk and cream have attracted many into the business who had not been in before. The relation of price to interest is strikingly shown by the new conditions. The price of cotton alone does not completely control the interest of the farmers in other things, but the price of other things has proved to be a factor in so far as dairying is concerned.

There is a healthy and encouraging sign about some of the "overnight" dairying that has sprung up, and that is that many of the dairymen are manifesting an interest in substantial improvements—barns, silos, good cattle, and the like. Proper standards of quality are being forcibly put before the farmers supplying milk and this is going to exert an elevating influence upon the dairy interests. Nine pasteurizing plants have been installed in one State alone (South Carolina).

The number of farm cows is increasing. This is partly due to scarcity and high price of milk and partly to agitation as to its food value. Bankers have entered enthusiastically into projects for encouraging farmers to procure good family cows. One bank went so far as to offer money one year without interest to farmers for the purchase of dairy stock. Two Texas cities have raised loans for more than \$100,000 each to enable farmers to purchase good dairy cows.

The necessity for home-grown feed has never had stronger arguments presented in its favor, nor more striking demonstrations of the cost of not having it. The extremely hard winter and equally high prices for commercial feeds brought this before the dairymen and, incidentally, the reflex action of all these things brought the poor cow and the good cow into striking contrast.

Thirty-nine specialists gave all or a part of their time to dairy extension during the past year. In Alabama, Arkansas, Georgia, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, and Texas the work was done in cooperation with the Dairy Division of the Bureau of Animal Industry of the Department of Agriculture. In each State demonstrations were planned in close cooperation with the county agents and through them much valuable instruction was given to the farmers regarding the proper feeding of dairy cows, raising of calves, construction of dairy buildings and silos, selection of breeding stock, testing of herds, keeping herd records, and the care and handling of milk, cream, and other dairy products.

Cheese factories which were started a few years ago in North Carolina have increased until now there are 26 in North Carolina, 8 in Virginia, 5 in Tennessee, and 1 each in Georgia, West Virginia, and South Carolina. The output from these factories in North Carolina this year was approximately 400,000 pounds, and brought in the wholesale market 1 to 2 cents premium above prices paid in New York and Wisconsin. A greater number of factories could have been organized had it been possible to secure trained cheese makers.

Butter production from creameries in Mississippi was approximately 3,000,000 pounds. Due to progress in cream grading the price of this butter was 1 cent per pound over the previous year. The specialists assisted directly in the erection of 139 silos; 41 barns holding approximately 1,332 cows; remodeling 40 barns and 19 milk houses; held 110 demonstrations, and supervised the keeping of 96 herd records, aggregating 2,008 cows and 1,456 cattle. Through the combined influence of the specialists and the county agents, 2,099 pure-bred bulls and 9,720 pure-bred dairy cattle, and 13,860 head of grade dairy cattle were placed on farms in the southern territory this year. The county agents also report that 16,987 cows have been tested for milk production, and 15,240 farmers had fed balanced rations to 97,313 head of dairy live stock. Also in their territory and through their influence 44 new creameries, 286 cream routes, and 35 cow-testing associations and 110 dairy-breeders' associations were established this season. The dairy specialist worked in close cooperation with home-demonstration agents in their campaign for cottage cheese, butter, and milk.

LIVE STOCK.

That live-stock interests show their appreciation of the future of this industry in the South is evidenced by the fact that the large packing interests are establishing plants in the Southern States at a number of points, and various breeders' associations materially increased the premiums offered at fairs for their respective breeds, and also carried on an active campaign, through the press and otherwise, to bring out the merits of their respective breeds. That the southern farmer appreciates the value of pure-bred live stock and can raise it successfully is demonstrated by their winnings at the national live-stock expositions and also by the fact that in a number of sales of pure-bred live stock the average price paid by southern breeders was equal to and sometimes greater than ever before known in the history of the breed association.

For the purpose of assisting the county agents in the promotion of live-stock work, 36 specialists were employed in the 15 Southern States. These specialists devote their time to assisting and advising county agents and the farmers regarding the best methods for increasing the number and grade of live stock of all kinds. They prepared circulars, answered letters, addressed farmers' meetings on breeding, feeding, housing, and caring for farm animals, assisted in the selection, purchasing, and marketing of live stock, and helped in the campaign for increasing pork production. The efforts of these men have centered largely on beef cattle, hogs, and sheep.

Beef cattle.—Due to the severe drought in Texas, thousands of head of cattle had to be moved to regions of greater feed production. Through the assistance of the specialists and county agents many carloads of these cattle were sent to the Southeastern States and distributed among farmers having surplus feed. Specialists should be credited with part of the results already reported under county agents.

Specialists and county agents also report 359 breeders' associations formed. It is an indication of the interest being shown in the production of beef animals that when the demonstration work started there were 8,973 pure-bred beef bulls reported by the county agents, while at the present time there are 24,477.

Hogs.—Rapid progress is being made in the swine industry throughout the Southern States. Farmers are learning that with the great variety of feeds available almost the year round for grazing purposes, together with the large amount of concentrates produced, the South offers the greatest opportunity for cheap pork production. In every State county agents have had difficulty in meeting the demand for pure-bred breeding stock. Besides the work already reported, county agents, assisted by specialists, induced more than

22,000 farmers to start hog pastures, and more than 34,000 were started in the growing of grazing crops to be hogged down. The agents report that more than 27,000 cars of hogs were shipped from this territory during the past year.

One of the important lines of work of the swine specialist was that of assisting the pig-club boys. Several of the specialists gave their entire time to this line of work. The results are given more in detail in the report of the boys' club work (see p. 60).

Sheep.—While sheep production has not aroused as much interest in the Southern States as has been the case with cattle and hogs, more and more farmers are turning their attention to this line of production. One of the serious drawbacks to sheep growing in this territory has been the danger from dogs. The county agents and specialists have joined with those interested in sheep production in agitation for the purpose of securing adequate laws for the protection of this class of live stock. As a result several States have already passed dog laws, with adequate provision for their enforcement, that should help materially in the eradication of this menace. Other results in sheep work are reported under county-agent work (see p. 40).

Poultry.—Most of the poultry work has been conducted by the home-demonstration agents. However, the county agents have given their hearty support to the home-demonstration agents and, in those counties where there was no home-demonstration agent, the county agents have taken an active interest in poultry production. There were 15 specialists giving their time to this line of work. In a number of instances they have been very active in getting communities to standardize upon one breed; and, as a result of their efforts, 1,374 communities are now raising the same kind of poultry.

HORTICULTURE.

Each of the Southern States is vitally interested in some form of horticultural work. In one State it may be apples, in another peaches, in another potatoes, while all have taken an active interest in home gardens and in truck gardening. For the purpose of assisting county agents and county home-demonstration agents in this important line of work, 24 specialists were employed during 1918. Their efforts were principally along three lines: (1) Home gardens; (2) orcharding; and (3) potato growing and marketing. Much of the work in home gardens and in orchards has already been reported. Specialists helped in planning and carrying out each of these lines of work.

Potatoes.—For many years the South has been recognized as being peculiarly adapted to the production of sweet potatoes. The most

serious drawback to the industry, however, was the difficulty in carrying over the crop from harvesting season to midwinter, and thus distributing the consuming period over a greater length of time. Some years ago specialists of the Department of Agriculture worked out plans for storage houses and devised methods for the curing of potatoes, so that the crop when properly handled could be kept for long periods of time with but little loss. With the great need for the conservation of food, an active campaign was put on in a number of States to encourage the building of sweet-potato storage houses as recommended by the Department of Agriculture. As a result of this effort more than 150 storage houses were constructed, with a capacity of more than 200,000 bushels of potatoes. This number would have been very much larger had it been possible to secure material and labor for their construction. Farmers report very satisfactory results from these houses, the losses being less than 2 per cent as compared with 50 to 75 per cent where the old hill method of storage was used.

AGRONOMY.

The economical production of crops is the basis of all successful agriculture. The fertility of the soil and its maintenance through years of successful cropping, the rotation of crops, the production of improved seeds, the use of lime and fertilizer, and the best methods of cultivation are among the most important problems with which the county agent has to deal. With the great variation in soils and climatic conditions, the problems arising under the above heads are naturally numerous and varied. For the purpose of assisting the county agents in the solving of these problems, 28 specialists in agronomy were employed during 1918. These men outlined and assisted in conducting demonstrations along the various lines suggested above, addressed farmers' meetings, prepared circulars and other matter for publication, helped to organize seed improvement associations, addressed field meetings, movable schools, farmers' institutes, etc., answered thousands of personal letters from farmers, and assisted in many other ways in the program of increased crop production and conservation.

There is no greater problem connected with the production of crops than that of growing and improving seed. There has been great effort, therefore, to encourage and instruct the farmers along that line. As an indication of the hearty response on the part of the farmer to this line of work, it may be pointed out that 56,919 farmers field selected more than 306,000 bushels of corn the past year and 13,359 farmers field selected cotton seed. In the case of cotton, in addition to encouraging the farmer in selecting improved seed, efforts are being made to induce communities to grow but one

variety. Where this can be done all the farmers in that community produce a uniform grade and as a result receive a better price than where a great number of varieties and types are grown. The county agents report that 127 communities standardized on one variety this year.

Specialists in agronomy rendered valuable service in the seed-corn campaign and in the work on fertilizers and farm manures.

LIVE-STOCK DISEASES AND PESTS.

There is close cooperation between the Bureau of Animal Industry, the State veterinarians, and the members of the extension forces in the various Southern States. While the question of the placing of quarantine and the enforcement of the regulatory laws regarding live-stock diseases and pests is entirely under the supervision of the State veterinarians, the extension forces and the county agents, particularly, give their heartiest cooperation toward making the work as efficient as possible. Every effort is made to acquaint the farmers with the benefits to be derived from the eradication of the cattle tick, prevention of hog cholera, anthrax, and other diseases. Special stress has been laid upon the value of vaccination to prevent hog cholera and anthrax. This work has been particularly valuable during the war emergency in that thousands of hogs and cattle have been saved for food purposes that otherwise would have died from disease. (See also p. 40.)

PLANT PATHOLOGY.

The work in plant pathology is done by the State colleges in close cooperation with the Bureau of Plant Industry of the Department of Agriculture. Eleven specialists were engaged in this line of work. In the cotton States particular emphasis has been laid upon the prevention and eradication of cotton anthracnose. Numerous demonstrations have been made of the value of rotation of crops and the field selection of anthracnose-free seed, and an increasing number of farmers are following the methods recommended. Special efforts were made to encourage farmers to treat their small-grain seed for smut. The county agents report through this influence 250,540 bushels of seed wheat, 2,583 bushels of seed rye, and 115,656 bushels of seed oats treated for smut during the past season. In the sweet-potato sections special campaigns were conducted for the control of the diseases peculiar to the potato. A number of circulars dealing with diseases of different farm crops were prepared by the plant-pathology specialist, lectures were given at various farmers' meetings, field demonstrations held at favorable points, and assistance generally given to county agents in the control of various plant diseases.

ENTOMOLOGY.

Eleven specialists cooperatively employed by the Bureau of Entomology and State colleges of agriculture assisted the county agents and other extension workers in the control of insect pests. In some of the Southern States where corn is fast becoming a staple crop, the problem of storage is of prime importance. Considerable time was given, therefore, to the control of the corn weevil. Lectures and demonstrations of the value of fumigation for holding in check this insect were given in a number of the States. Methods of control of potato beetles, corn earworms, the San José scale, codling moth, and other orchard insects, truck-crop insects, household and animal pests, have been taught through circulars, lectures, demonstrations, and personal visits to farmers.

Beekeeping.—Interest in honey production continues to increase in the Southern States. With the shortage of sugar, many persons turn to honey as a source of sweets. In a number of the States specialists in apiculture gave their entire time to that line of work. Through the county agents, the home-demonstration agents, and by personal efforts, beekeepers were taught how to store their bees for winter so that the colonies would come out strong in the spring, when the greatest supply of honey-making material is available. Beekeepers' associations are being formed in several States and the outlook for this line of work continues very promising.

FARM MANAGEMENT.

Specialists in farm management are employed in Arkansas, Alabama, North Carolina, Georgia, and Mississippi. This work is done by the State colleges in cooperation with the Office of Farm Management of the Department of Agriculture. Each year sees a better coordination of the work of these specialists with that of the county agent. Farmers are being encouraged to keep more accurate records, and in two of the States record books have been prepared and distributed among a large number. The teaching of farm-management principles has been conducted at meetings of farmers and county agents, and publications issued giving the farm practice of successful farmers regarding the saving of labor in the harvesting, storing, etc., of various crops, and in the use of improved farm machinery.

AGRICULTURAL ENGINEERING.

Seven specialists furnished technical information to the agents and assisted in conducting field demonstrations on drainage, terracing, rural sanitation, etc. They also prepared and distributed plans for farm buildings and home conveniences. Plans were furnished for 3,695 new buildings. Assistance was given in the erection of 4,997

new buildings, and the repair of 9,864 others; 16,419 home water systems were installed or improved; 7,266 home lighting systems installed, 57,677 houses screened, and assistance given in the making of innumerable smaller farm and home conveniences; 17,481 farmers were induced to drain all or part of their farms, and 24,049 farms with an area of 624,668 acres were terraced.

MARKETING AND RURAL ORGANIZATION.

Perhaps no other line of work done by the extension forces is arousing more interest and meeting with a heartier response on the part of farmers than that of marketing and rural organization. Twenty-seven specialists were employed in this particular work under various projects. This work is done primarily through the county agents and is fully discussed under that subject. However, there are some items which can not be readily reported under county agents. In North Carolina much work was done in cotton grading and marketing. This work was pursued likewise in Texas and South Carolina. It has been fully demonstrated that cooperative grading and marketing secures for the farmer a better price than under the ordinary system of selling. The average better price in North Carolina ran \$11.60 per bale. Assistance was also rendered to farmers in marketing potatoes, sweet potatoes, strawberries, apples, hogs, and cattle.

In Texas 31,298 bales of cotton were classed and graded. Though all the cotton has not yet been sold, apparently the increased price over the ordinary market price will net the farmers \$474,270.

In West Virginia the farm bureaus transacted a great deal of marketing and purchasing work, the estimated saving to the farmers being \$56,388.

Much work was done in Maryland in the organization of sheep-growers' associations and in assistance to organized milk producers surrounding Washington and Baltimore markets.

In South Carolina growers of strawberries, cabbages, potatoes, peaches, cantaloups, and watermelons were assisted in organization and marketing. The Orangeburg Cooperative Marketing Association was organized and did a business amounting to approximately \$250,000.

FORESTRY.

Two specialists, in North Carolina and Virginia, are engaged in forestry work. The extension specialist from the Forest Service has visited most of the other Southern States and assisted the county agents in helping farmers in the marketing of their timber, preservative treatment of fence posts, reforestation of worn-out lands, the planting of trees for the prevention of erosion, etc. During the

winter of 1917-1918 a campaign was made to encourage the use of wood as fuel so as to release as much coal as possible for other purposes. Many counties went on a wood basis, using no coal whatever. The great need for walnut timber for war purposes became so urgent that in the spring of 1918 regular extension plans were set aside and the forest specialist gave his entire time for some weeks in conducting a survey of black-walnut resources. Through the extension machinery hundreds of farmers were informed of the great need of this timber for war purposes and thousands of trees were brought to market that otherwise would not have been cut. There is a growing interest in the various lines of forestry, and several States desire to take up some phase of work as soon as proper arrangements can be made.

OUTLOOK.

The extension services in the 15 Southern States may well look back at the work accomplished during the period of the war with considerable gratification. The force was greatly augmented during this period in order to meet war necessities.

The work for the next year will involve many difficulties, among them being a reorganization on a normal basis, which means the replacing of inefficient men with men of a higher degree of training and natural ability; the perfecting of supporting organizations to enable the extension workers to reach the largest number of people, and a thorough coordination of the different branches of extension work in each State.

The relationship of specialists to county agents is better understood and the whole service has been improved as a result. An increasing degree of efficiency will be gained by close application to planning and executing the work of specialists through county agents and the organizations perfected to enlarge the scope and effect of the county work. The number of specialists needed in any State is a difficult problem. Some of the States have a tendency to overload the force at headquarters with too many specialists and to pay too little attention to the personnel of the county agents and improving them to take care of all general problems, leaving to the specialists only the more difficult and troublesome problems arising within the State. On the other hand, some of the States now recognize that they have too few specialists and need to acquire men of high training and ability for particular lines of work. One of the problems of the approaching year is that of obtaining specialists who will be recognized by the people of the State as leaders in information and thought on the particular subject to which they are to apply their efforts.

The problem of finances for the next few years is a difficult one. In most of the States the general plan involves definite contributions from county sources which will increase the local responsibility and enlarge the total funds available for the work.

In the period immediately following the war the greatest possible emphasis must be placed upon the problems of marketing and distribution. Most of the extension directors in the Southern States understand that the county agents must pay more attention to demonstrating to the farmers good methods of marketing their products. A very considerable part of the duties of county agents and marketing specialists will be to plan with all other divisions of the work how to help farmers solve their difficult marketing problems.

Whether the work as a whole will increase in usefulness and render the greatest possible service will depend on the knowledge, experience, and personal qualities of the extension workers, and the adequacy of the funds provided to bear the expenses of the service rendered.

EXTENSION WORK IN THE NORTH AND WEST.

EXPANSION FOR WAR SERVICE.

The year ending June 30, 1918, saw a great expansion of the co-operative extension work in the Northern and Western States. Within a few days after war was declared in April, 1917, the Secretary of Agriculture called a conference of the deans and presidents of the State colleges of agriculture and State agricultural commissioners at St. Louis to consider national plans for promoting agriculture and conserving food. It was deemed expedient to complete the county-agent system throughout the United States as rapidly as funds could be made available and the work could be organized. Conservation of both food and clothing likewise seemed of great importance, and it was deemed advisable therefore to greatly expand the home-demonstration work and to extend it to the cities. It was thought wise also to stimulate the development of the boys' and girls' club work, especially the gardening, canning, poultry, and pig-club work. Accordingly estimates as to the cost of the work, including sums for the employment of a limited number of specialists to promote dairying, animal husbandry, the control of crop pests, animal diseases, etc., were submitted to Congress. Funds were granted and became available in August, 1917. Meanwhile the State colleges of agriculture, anticipating increased Federal aid, began rapid expansion and organization of the extension work. Many of the colleges closed the college year a month or two months earlier than usual. Part of the State agricultural college faculties in Ohio, Wisconsin, California, and other States were sent into the field to organize counties for county-agent work, and, in some cases, to act as county agents themselves. In general, the State agricultural colleges used their additional extension funds from Smith-Lever sources for the year in the employment of specialists and for administration, while the emergency funds made available by Congress were used in the employment of county agents home-demonstration agents, and boys' and girls' club agents.

EXPANSION OF COUNTY-AGENT WORK.

Even under war pressure the expansion of the county-agent work was accomplished on a sound basis with local financial support and farm-bureau membership, and more than ninety per cent of the men

secured as agents were college-trained with good farm experience. The outbreak of the war found every State with a county-agent leader located at the State agricultural college and a number of counties already organized with agents. This work had been developing slowly during the preceding six years and had commended itself to farmers and the public generally. Experience had been gained on how to organize counties. This experience and the appeal to organize as a national war measure made it possible within the year to increase the number of county agents in the 33 Northern and Western States from 542 to 1,133. The counties and farmers cooperated financially in this work by appropriating generally a dollar for every dollar furnished from Federal sources.

EXPANSION OF HOME-DEMONSTRATION WORK.

Extension work with women was greatly stimulated during the year, there being practically a million dollars available from Federal sources, for such work. But 15 counties in the Northern and Western States were organized for work with women when war was declared with Germany, and only a few of the States had any overhead organization for the work. Most of the States were carrying on such extension work with women as they could do through specialists in subject matter who went out from the college. Under the stimulus of Federal emergency funds each of the States employed a home-demonstration leader to organize the work. Counties were encouraged to organize and, through their county farm bureaus or other extension organization, to employ a home-demonstration agent. Assistant State leaders and district leaders were appointed by the State colleges of agriculture in cooperation with the Department, to carry on demonstrations and to explain the work and organize the counties. The district leaders were paid entirely from Federal and State college of agriculture funds. Whenever counties organized and furnished some financial support, an agent was placed wholly in that county. Over 600 city, district, and county home-demonstration agents, practically all of whom had been technically trained for the work in the agricultural and women's colleges of the country, were employed in food and clothing conservation work. In cities the work was usually carried on in cooperation with food committees or other organizations, though frequently the city work was organized as a part of the county farm bureau. In the organization of the rural home-demonstration work, it was kept in mind that extension work with women was contemplated in the Smith-Lever Act and whenever possible therefore the plan of organization was such as contemplated permanency.

EXPANSION OF BOYS' AND GIRLS' CLUB WORK.

The chief developments in the boys' and girls' club work during the year were extension into urban districts, closer alliance in rural districts with the farm bureau, and special thrift campaigns, garden work, canning, poultry, and pig-club work.

MODIFICATION OF THE FARM-BUREAU PLAN.

In preceding years many county agents developed work with farm women particularly in relation to home water supply, heating, lighting, home sanitation, household conveniences, home gardening, canning, poultry management, butter making, etc. These problems were of pressing importance and some of the most appreciated work of the county agents was along these lines. The county agents had also been largely instrumental in interesting young people in the work of the farm and home through the organization of boys' and girls' clubs, often giving much detailed attention to the supervision of such work. The passage of the Federal vocational act had served also to emphasize the distinction between school work and extension work and to make the farm bureau the logical sponsor for the extension work done with boys and girls through the boys' and girls' club work. It was, therefore, natural that the people of the county should develop their farm bureau as the organization for giving local direction to the rapidly expanding home demonstration and club work. The farm bureau in 29 States was expanded to include membership of women, generally with equal dues and responsibilities with men, and in 3 other States having other types of organization but functioning as farm bureaus, women were included in a similar manner. These new elements in the farm bureau called for such readjustment of its committees as would contribute to the development of a complete program in agriculture and home economics. This required no organic change in the farm bureau but simply the providing of additional committees to lend special emphasis to the new phases of the work.

Especial emphasis was laid by the agents and farm-bureau officers and committees upon the development of plans or programs of work for increasing agricultural production and conservation of agricultural products. A marked tendency developed to recognize the rural community as the logical unit of work. Community committees made possible the application of the county program to community problems and the development of a more active and personal interest on the part of the whole membership of the farm bureau, not only because the plans of work were intensified and made more personal in their application, but because the community committees

developed local leadership, community consciousness, and community responsibility.

Eight additional States during the year recognized the farm bureau as a part of their extension organization, making 29 of the 33 Northern and Western States which have adopted it. Three States had other types of county organizations supporting the work while one had committees of the county council of defense acting as the local cooperating parties. The number of farm bureaus increased during the year to 732 and the membership to more than 290,000.

Conservation of food and clothing in the city and village home was recognized to be of as much importance as in the rural home and work was undertaken under the food-production act to reach them. Often this work was organized as a part of the farm bureau. In some cities home bureaus were formed that paralleled the farm-bureau plan of organization and home-demonstration agents were appointed to work with them.

EXPANSION OF THE WORK OF SPECIALISTS.

The number of extension specialists, both State and Federal, was not only considerably increased during the year to assist the greatly increased number of county, home demonstration, and club agents but the specialists saw the desirability of organizing their work in close cooperation with such field agents. The extension specialists were especially helpful in furnishing subject matter for the field organization forces and in organizing State and National drives for increased wheat, corn, milk, meat, and wool production and conservation.

OUTSTANDING FEATURES OF THE YEAR'S WORK.

In the following pages some of the larger results secured in the various projects carried on with Smith-Lever and supplementary funds during the year are given in some detail.

The outstanding feature of the year's work is the fact that with less than a normal labor supply the farmers of the United States increased the acreage of tilled crops on the average 6 acres per farm or about 11 per cent above the pre-war year of 1914, while actual production was increased approximately 5 per cent. This increased acreage for the whole country means that for the year the farmers added in the aggregate more than 235 miles square, or an area practically the size of the State of Illinois, to the agricultural resources of the country. The cooperative agricultural forces charged with the responsibility of stimulating agricultural development were a prominent factor in securing this result.

COUNTY-AGENT WORK.

INCREASING THE FORCES AND ENLARGING THE WORK.

There were on June 30, 1918, 1,133 county agents in the 33 Northern and Western States. This is an increase over June 30, 1917, of 591 agents. In all 1,296 counties are reached by agents on either a county or district basis. These counties include 80 per cent of the agricultural counties and represent more than 95 per cent of the total agricultural production in the 33 Northern and Western States involved. The emergency funds provided in the food production act passed by Congress August 10, 1917, were insufficient to employ an agent in each county and pay his expenses. For this reason and for the further reason that it was believed better results would be secured through cooperative endeavor, the States were encouraged to contribute toward the work from their Smith-Lever and other appropriations and to secure local funds from county commissioners or through farm-bureau membership. Aside from a few exceptional cases not to exceed \$1,800 of food production funds were used in any county, the average amount being about \$1,400, which is substantially double the average amount of Federal funds contributed under normal conditions.

The emergency funds, although not available early enough to have any marked effect on increased crop production during the calendar year 1917, were available for use in connection with the fall seeding of wheat and rye and the saving of seed corn for the 1918 crop.

In order to hasten the appointment of agents, assistant leaders or organizers were appointed particularly in the middle Western States, from which in a large measure the increased food production had to come. It was in this section also that the largest number of counties were to be provided with county agents. These assistant leaders arranged publicity campaigns, held meetings at which the need of organized effort in increased food production was explained and temporary organization effected to provide local funds to start the work.

Inasmuch as the Smith-Lever Act contemplated a county agent in each county by 1923, it was early resolved to start as much of the work as possible on a permanent basis, and too, so far as the need of haste would permit, to organize the counties regularly with a farm bureau as the basis of the work.

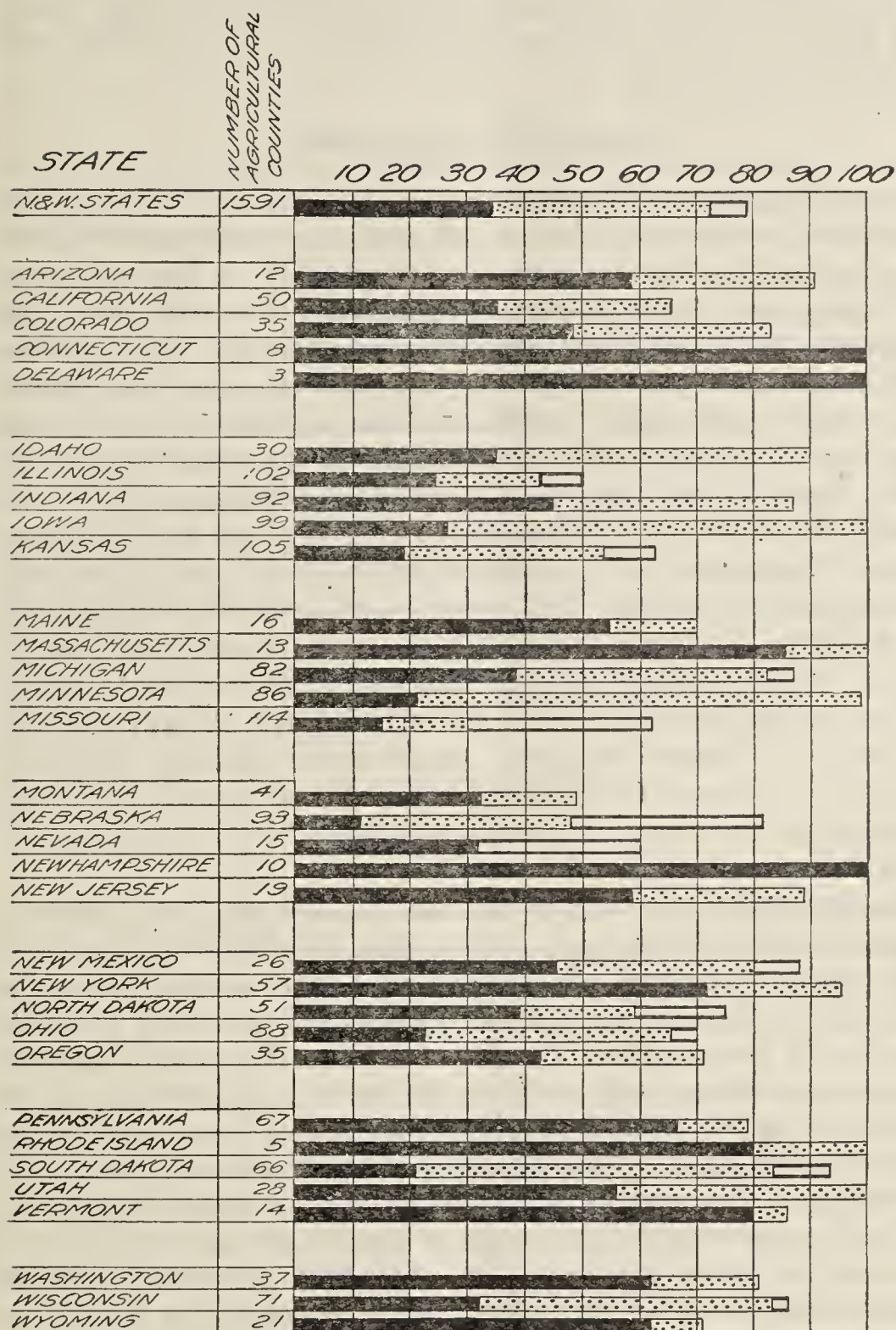
The plan of organizing the new counties so far as possible on a permanent basis with a farm bureau involved greatly increased work on the part of National and State supervisors and local organizers and so merged emergency work with the regular Smith-Lever

county-agent work that no distinction in treatment can be made. All the county agents, regardless of the nature of the funds involved, devoted full time to war work and all alike participated in the same projects. Figure 1, page 20, shows the development of the work during the year. All of the important agricultural counties in the Eastern, Mountain, and Pacific Coast States were covered and with the exception of Illinois, Kansas, Missouri, Nebraska, North Dakota, and Ohio, the North Central States were practically taken care of. In the States mentioned there were a considerable number of counties that were finally reached only by district agents covering two or more counties. Figure 3 shows the development of the work by States. During the year 233 assistant county agents were appointed, 42 assistant county agent leaders, and 68 assistant county agents at large. In all 939 additional employees were added to the rolls during the year.

In previous years the work of the county agent was largely the conducting of demonstrations in agricultural practice and farm management with mature farmers, although, as previously stated, the agents in many counties had developed home projects or had been instrumental in interesting young people in boys' and girls' club work, and in supervising such work. The placing of home-demonstration agents and boys' and girls' club leaders in many of the counties relieved the county agent of direct personal attention to the problems of the home and the young people and made possible greatly increased and better organized work along these lines. It, however, increased his responsibility, for while the value of his work will continue to be measured to a degree by the results of his demonstration work, his most important and most valuable work in the future will be the organizing of forces of his county so as to center the attention of the whole rural population upon the development of an economically sound working and living program.

RESULTS OF THE WORK.

Any statistical statement of the results of county-agent work is most unsatisfactory as a measure of its worth either to the people of the farm or the Nation. Neither will the limitations of this report permit of any extended elaboration or detailed specific illustration of even the more important phases of the work of the year. The following figures are based on the annual reports of 1,160 county agents covering the period from December 1, 1917, to November 30, 1918, which corresponds to the reporting year in county-agent work. Owing to the great diversity of agriculture and the widely varying conditions, in no case was the entire number of agents involved in connection with any one project, while some locally im-



■ PERCENTAGE OF AGRICULTURAL COUNTIES HAVING COUNTY AGENTS JUNE 30, 1917.
 ■ PERCENTAGE OF AGRICULTURAL COUNTIES HAVING COUNTY AGENTS JUNE 30, 1918.
 ■ PERCENTAGE COVERED BY DISTRICT AGENTS JUNE 30, 1918.

FIG. 3.—Development of county-agent work in the Northern and Western States during the year ended June 30, 1918.

portant projects received attention by only a few agents. The chief value of county-agent work lies in its adaptability to local conditions, but this greatly increases the difficulty of any adequate summarization of the work.

EXTENDING THE WORK.

In reaching the people the county agents made chief use of the farm-bureau committees, but the helpful and cordial cooperation of county councils of defense, granges, the Society of Equity, Farmers' Union, and other farmers' organizations were of very great importance. The agents during the year brought into existence more than 2,000 new associations, such as breeders' associations, horticultural associations, hog-cholera control clubs, farmers' clubs, and a great variety of organized effort to meet the local needs. These organizations functioned as teaching agencies of a most helpful character and included a membership of nearly 150,000 people. The agents also organized 8,154 boys' and girls' clubs, with a membership of 158,056. The agents participated in 110,931 meetings through which they delivered a message to more than 3,500,000 people. These meetings varied all the way from the simple demonstration meetings with only 5 or 10 farmers present to large gatherings of several thousand. Most of the meetings related to some of his agricultural projects, but a considerable number were incidental to explaining America's war ideals and helping the program of war activities.

The farm visit continued to constitute one of the most important phases of county-agent work. More than 500,000 farm visits were made, directly reaching 305,489 farmers. The average number of farm visits per agent was 435, or substantially the same as during the previous year. Of more significance, however, is the constantly increasing number of calls made on the agents at their offices. From 223 such calls per agent during the year ending June 30, 1916, the number increased to 770 calls per agent the following year, and to an average of 1,108 per agent during the year ending June 30, 1918. While this was undoubtedly caused in part by the many relations of the county agent to war work, the fact that more than 1,250,000 farmers sought out the agents by coming personally to their offices for assistance indicates an increased recognition that the agents are professional men to whom farmers can go for advice concerning their problems. This figure is even more significant when it is considered that nearly half the agents involved were in their first year of service. Few professional men, even after years of successful practice, could boast of such a clientele, and most young men entering a profession would consider one-tenth the number an enviable record.

Eighty-six thousand five hundred and sixty-five articles dealing with agricultural subjects were prepared by the agents and published in the local press or Farm Bureau News. A total of 1,626,512 letters to individual farmers—an average of 1,419 per agent—were involved in agents' correspondence. This does not include 6,737,971 circular letters or 100,150 questionnaires handled for the Department of Agriculture and the State agricultural colleges. Almost every important war activity recognized the county agent as the county leader both for the accumulation of data and for the dissemination of information. Among the most important matters of this sort handled by the agents were food and labor surveys; Liberty loan, Red Cross, and War Savings Stamps campaigns; distribution of nitrates and potash; purchase of horses, hay and straw for the Army; and inspection of thrashing machines. Many agents also served as local fuel and food administrators, chairmen of county councils of defense, and acted as agricultural advisers to the local draft boards. Eight thousand two hundred and sixteen public officials of the State or Federal Government called at the agents' offices personally for assistance. The agents assisted in conducting 3,741 extension schools and farmers' institutes at which the attendance amounted to 348,754. One thousand eight hundred and three observation parties involving 82,094 people were conducted. In the development of these projects the agents received field assistance from the State agricultural college or department specialists at 21,520 meetings.

WORK WITH CROPS.

Corn.—Fall selection of seed corn and the testing of seed for germination have been standard county-agent projects ever since the work was started. The war necessity for increased production and the very unfortunate seed-corn situation in many States, especially in Ohio, Indiana, Illinois, Iowa, North Dakota, South Dakota, Wisconsin, Minnesota, and Michigan in the spring of 1918, made the seed-testing work of very pressing importance. In the northern part of the corn belt there was an almost total absence of seed corn. In the corn belt proper the problem was to locate all available home grown seed corn from fields where the crop had matured and redistribute this locally to the less fortunate farmers. The location of seed corn of high germination adaptable to the locality where it was to be planted and its distribution were problems calling for organized effort. By intensive organization and the establishment of numerous testing stations Iowa was able to care for its entire problems in this way. Illinois, Indiana, and Ohio, however, were forced to bring in large quantities of seed corn, most of it coming

from New Jersey, Pennsylvania, and Connecticut. The county agents both at the point of supply and at the point of distribution and the seed-stocks committee of the Department of Agriculture aided in locating and distributing this seed. County agents arranged for the field selection of seed corn in the fall of 1917 on 326,662 farms, which made available seed for 3,466,986 acres. Through testing campaigns conducted in the spring of 1918, 547,779 farmers tested their seed for germination. This provided for the planting of 10,605,894 acres. The agents influenced the growing of more than 1,250,000 acres of silage corn; 222,123 farmers were assisted in securing seed corn; 1,232,099 bushels of seed were located for farmers; nearly 500,000 additional acres were planted because of increased production campaigns resulting in an increased production due to the work of the county agent of 12,820,300 bushels. The work with corn was engaged in by approximately 700 county agents.

Wheat.—The increased production of wheat was a war necessity second only to the raising of troops and their transportation to France. The Department of Agriculture in cooperation with the Food Administration carefully determined the food needs both at home and abroad and suggested the needed acreage for each State. The intensive campaigns with the farmers was largely the work of the county agents.

A total of 67,797 farmers were given direct assistance in securing seed wheat. Nine hundred and fifty thousand seven hundred and twenty-nine bushels of seed wheat were secured or located and the spring-wheat acreage for 1918 was increased 1,415,901 acres, and the winter-wheat acreage for 1919 crop 2,724,561 acres. The additional acres of spring wheat (1918) produced through campaigns of county agents amounted to 21,258,695 bushels. The 1918 winter-wheat crop was increased by 23,902,678 bushels. The more than 2,500,000 acres of winter wheat planted in the fall of 1918 as a result of the wheat-production campaign conducted by the county agents is yet to be heard from. About 1,000 agents engaged in the wheat-production campaign.

Oats.—Fourteen thousand one hundred and forty-two farmers were assisted in securing 421,660 bushels of seed oats; 182,507 acres were seeded because of oat-production campaigns and the increased production amounted to more than 4,500,000 bushels. Oat smut levies a tremendous toll annually in the oat-producing States. It is comparatively easily controlled by the formaldehyde treatment. Treatment of oats for smut has been a standard project of the county agents in previous years, but special emphasis was given it during 1918. Ninety-seven thousand nine hundred and eighty-three farmers treated their seed oats at the county agents' suggestion, involving an acreage of 1,842,061 acres. On demonstration

areas where careful observations were made the total net profits, due to careful treatment, amounted to \$514,635 or \$2 per acre. Approximately 500 agents took part in the oat work.

Rye.—Eleven thousand five hundred and thirty-two farmers were provided with seed rye to the amount of 183,595 bushels, and the increased production amounted to 1,705,806 bushels. Five hundred agents were involved in the rye campaigns.

Barley.—Six thousand three hundred and thirty-three farmers were assisted in securing seed barley; 159,493 bushels of seed were provided and the increased production amounted to 2,827,995 bushels. Three hundred and seventy agents participated in this work.

Potatoes, buckwheat, sugar beets, beans, etc.—Crop-production campaigns were conducted with these and a number of other crops of less general but of local importance. The increased production of potatoes amounted to 2,157,712 bushels. Of special significance was the treatment of potato seed for disease. Twenty-two thousand four hundred and nineteen farmers were influenced to treat their seed potatoes involving an acreage of 125,086. Buckwheat was increased by 331,495 bushels; sugar beets by 548,565 tons.

Sorghum.—The sugar shortage was helped out not only directly through the increased acreage of sugar beets, but also by stimulating the production of sorghum for the home manufacture of sirup. This was a revival of an old farm custom which was once quite common throughout a considerable portion of the country. In 171 counties the agents provided seed and influenced the planting of nearly 500,000 acres of sorghum.

Other crops.—Among the other crops with which demonstrations were conducted or production campaigns carried on may be mentioned alfalfa, sweet clover, red and alsike clover, hay, soy beans, cowpeas, vetch, milo, kafir, feterita, sudan grass, squashes, pumpkins, etc.

HOME AND COMMUNITY GARDENS.

The county agents as in previous years gave attention to the home-garden work, the importance of which was greatly increased because of the difficult transportation conditions and the need of providing an adequate home food supply. This work was carried on both in the towns and in the country. In some industrial centers and in large cities this work took the form of community gardens. In all 238,030 families were given assistance with their gardens. There is no possible way of even estimating the value of this form of food supply, as most of the products were consumed at home when the product was fresh. As a by-product of this campaign 3,588,070 quarts of vegetables and fruits were canned and 753,389

pounds dried. Six thousand eight hundred and ninety-four canning demonstrations were held and information was furnished to 149,282 families in regard to storing fruits and vegetables.

WORK ON SOILS, FERTILIZERS, AND POWER MACHINERY.

While the pressure for special crop production to help win the war to a considerable extent interfered with the established rotation of crops and caused some departure from the best soil management, wherever possible a permanent type of agriculture was kept in mind with as little interference as possible compatible with the results necessary to be secured. When there was conflict between best agricultural practice and the Nation's war necessities, both the county agents and the farmers gave precedence to the latter and cheerfully accepted the consequences. Five thousand three hundred crop-rotation systems were planned; 1,940 drainage systems laid out for the draining of 371,226 acres of land; power ditching machines were provided, sometimes at State expense and sometimes cooperatively by the farm bureau. Arrangements were also made for buying drain tile in car lots. By the above means even in face of labor shortage and difficulty in securing tile, a considerable increase in this work was effected over former years. Three hundred and sixteen irrigation systems were planned and installed bringing 280,913 acres under water. The European potash supply was shut off by the war and shipping facilities greatly curtailed the supply of Chilean nitrate. The Government undertook to secure a supply of nitrate and the county agents handled the matter locally.

Twenty-five thousand seven hundred and eighty-nine farmers were provided directly with fertilizers through the county agents. Sixty-seven thousand six hundred and ninety-seven tons of fertilizers were handled by the agents. Testing soil for acidity continued to be a feature of the work in 676 counties; 19,205 tests were made for as many farmers. Five hundred and sixty local sources of limestone were developed and 419 limestone grinders installed. Three hundred and twenty-five thousand and seventy tons of ground limestone were used at county agents' suggestion. Land-clearing demonstrations by the use of explosives continued to be an interesting phase of the work in the Pacific Northwest and in Minnesota, Wisconsin, and Michigan.

The use of power machinery, including tractors, was given great impetus. Many tractor demonstrations were conducted under the auspices of the agents. Five thousand four hundred and thirty-two tractors were placed on farms, either through purchase by farmers or by loan from public agencies. Three thousand six hundred and three other power machines, including sprayers and ditching machines, were secured.

LIVE-STOCK WORK.

The production of meat and fats was second in importance only to that of wheat. Into the increased live-stock production campaigns the county agents entered most heartily. In many sections this helped to reinforce permanent plans for better balanced agriculture involving live stock. As a direct result of these campaigns 23,073 additional cows were bred; 190,368 additional sows were bred. The increased number of live stock on farms in the 300 counties involved in these campaigns amounted to 128,125 cattle, 939,407 hogs, 382,074 sheep, and 106,773 fowls. Incidentally 30,020 calves were saved from slaughter.

In the permanent live-stock improvement work 238 farmers were assisted in securing pure-bred stallions; 5,221 in securing pure-bred bulls; 9,737 in the selection of pure-bred cows; 3,157 in the purchase of pure-bred rams; and 6,601 in locating pure-bred boars.

Nine thousand one hundred and thirteen pure-bred sires were transferred from one community to another, thereby lengthening the periods of service of good animals. One hundred and twenty-eight thousand six hundred and forty-two cows were under test through associations organized by agents, and 21,708 cows were tested by individual farmers. This work during the year resulted in discarding 5,541 cows. Three hundred and ninety-five breeders' associations were organized with a membership of 12,515.

In connection with live-stock-disease work the county agent does not take the place of the local veterinarian but conducts demonstrations in approved methods of disease control for the purpose of encouraging the farmers to either treat their own herds or to secure the services of a competent veterinarian. Fifty-five thousand nine hundred and sixty-two animals were tested for tuberculosis; 380,264 animals for blackleg; 104,001 hogs vaccinated for cholera by agents and 419,188 by farmers or veterinarians at the suggestion of county agents. The agent also rendered valuable services in connection with numerous other diseases such as anthrax, contagious abortion, and chicken cholera.

LABOR.

The labor supply on the farm had become a serious problem before the war and still more by employment of men in industries directly relating to the war. The situation was carefully analyzed through surveys and machinery developed through the farm bureau to handle the situation. The county agent cooperated with every possible agency to meet the situation. The Women's Land Army helped. The Boys' Working Reserves gave good service. In some localities the business men from towns were organized as "shock troops" and "twilight crews" in connection with the grain harvest.

All these and other agencies contributed, but in a large way the situation was met by longer hours and harder work by the men and women of the farm. On many farms the mother or daughter took the soldier boy's place in the farm work. Had the necessity been as great, America's farm women would have emulated their sisters in France. One hundred and fifty-seven thousand eight hundred and fifty-three applications were received by the county agents for farm or household service, 151,532 laborers were supplied, 114,997 men applied to the county agent for work on farms, and 13,938 women applied for household or field work.

FARM BOOKKEEPING AND COST STUDIES.

In cooperation with the State farm-management demonstrator the county agent placed 49,924 farm-record books in the hands of farmers, of which number 17,835 kept the records through the year. The agents assisted 6,860 farmers in closing their accounts. Three thousand four hundred and forty-four made profitable changes in their farm management as a result of such record keeping.

FARMERS' EXCHANGES AND COOPERATIVE BUSINESS.

Many farm bureaus have developed farmers' exchanges as a part of the bureau. The value of business done through these exchanges amounted during the last year to \$15,131,891. In this work the county agent or the farm bureau simply assisted in putting the buyer and seller in touch with each other. The business is transacted directly. Where situations demanded it, cooperative associations for handling specific business have been organized by the county agent. These associations as a rule have no organic connection with the farm bureau. The total value of business transacted by such cooperative associations organized by the agents amounted to \$26,745,892; the saving effected through cooperative effort amounted to 11.1 per cent on the business done.

Two hundred and sixteen public markets were established for the sale of farm products at which were marketed \$14,205,210 worth of products. Three hundred and thirty-two Federal farm-loan associations were organized and 19,312 farmers assisted in securing credit for the purchase of seeds, machinery, fertilizers, and supplies.

SUMMARY OF DEMONSTRATION WORK.

The great demand on the agent's time for war work handicapped his demonstration work. Notwithstanding this the number of demonstrations per agent was not materially reduced. In all 77,868 demonstrations were conducted covering a great variety of subjects. The meetings at the demonstration plots were attended by 667,753 people,

and the profit due to demonstration on the demonstration areas alone amounted to \$22,206,307. If, therefore, we disregard all the miscellaneous work of the agents, his numerous war activities, and the indirect influence of his work which can not be measured or expressed in terms of money value, the profits to the farmer directly accruing from demonstrations personally conducted by the agents amounted to more than five times the total cost of the work to the Government, States, and counties.

The county agent, as a war worker par excellence, was a great factor in the organization of American agriculture for war service. In this accomplishment the county agent played an important part as organizer and leader. To his credit also it should be noted that 199, or 17 per cent, of the agents appointed were in training camp or overseas at the close of the war.

THE OUTLOOK.

The county agent work has just passed through its era of greatest expansion. Of a possible 1,591 counties in the Northern and Western States, 1,133 counties were supplied with agents at the close of the year. The war service of the agents has brought them into very intimate relation not only with the farm people, but with organized society generally. The appreciation of the agent was never so high as now. The work, due to the emergency funds, is somewhat in advance of the point contemplated by the Smith-Lever Act, but fortunately it is organized with a considerable amount of local and State funds even in the purely emergency counties.

There never was brighter promise for the work than now. In the old organized counties many farmers who two or three years ago were neutral or indifferent toward the work are now wholeheartedly for it. Through adapting his work to the actual needs of the locality and cooperating with the farmers in meeting the problems on the farm, and by his zeal for work and service the county agent is winning his way everywhere and through the instrumentality of the farm bureaus farmers are coming rapidly to work together in cooperation for the upbuilding of their own farms and the agriculture and rural life of the community.

HOME-DEMONSTRATION WORK.

SCOPE.

The war crisis made it necessary that the home makers of the country be utilized to the utmost in producing, conserving, and preserving food; in conserving clothing and materials; and in increasing the Nation's efficiency by means of better health standards. Home-demonstration work at the beginning of the war had

been developed among the home makers of the rural districts in 15 counties in the Northern and Western States, and as soon as the Federal emergency fund became available the States, counties,

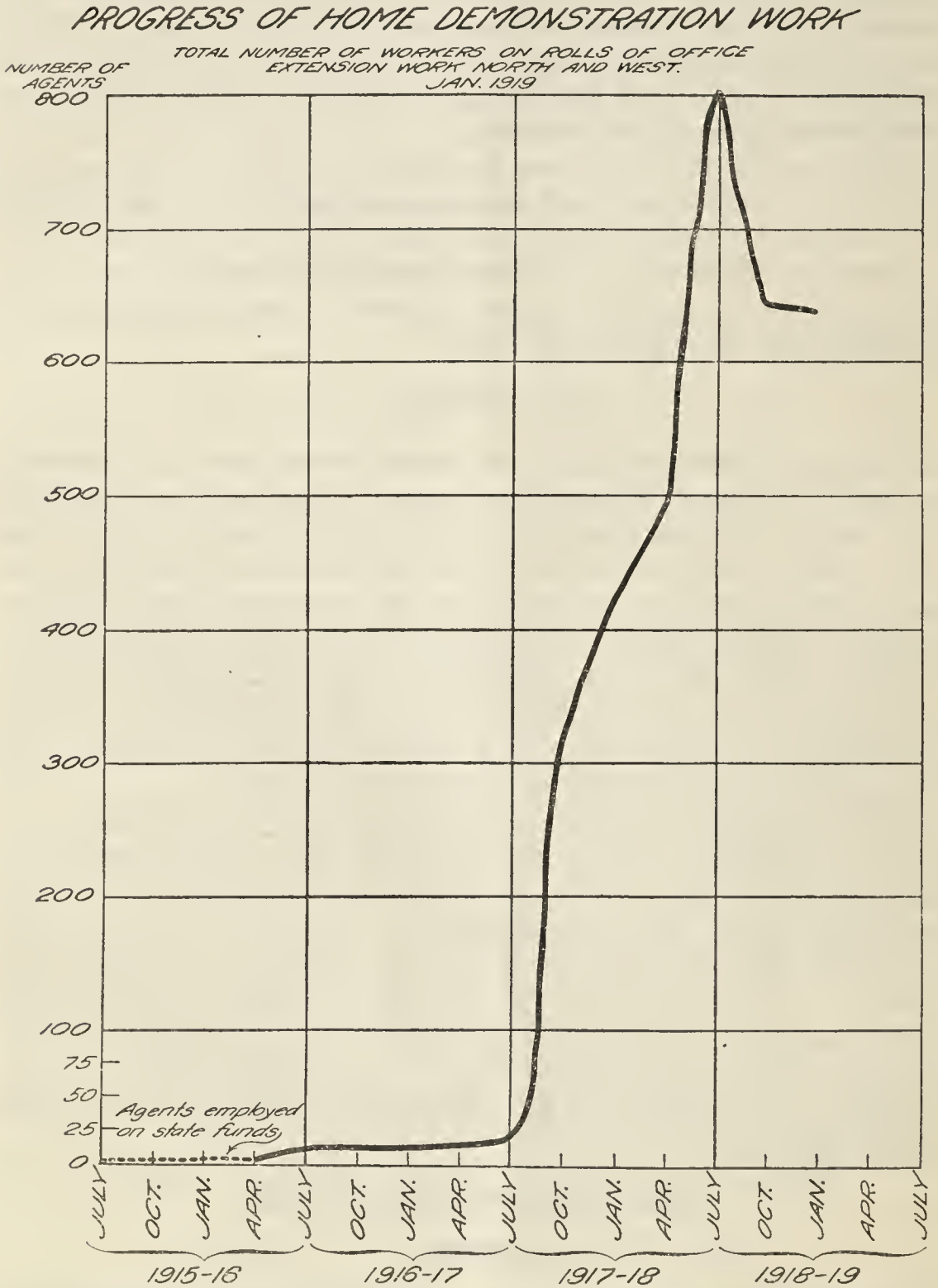


FIG. 4.—Progress of home-demonstration work in the Northern and Western States, 1915-16 to 1918-19.

and cities made demands for assistance. Trained women were found to carry on the work. Thirty-five became leaders in the Northern and Western States, 153 worked as agents-at-large, 488 were es-

tablished in rural communities in 361 counties, and 115 in communities in 98 cities. Figures 4 and 5 show the development of the work since the passage of the cooperative extension act in 1914. These agents were assisted by specialists in agriculture and home economics with headquarters at the Department and State colleges.

METHODS.

Work on food production and conservation, conservation of clothing, and the improvement of health conditions initiated and planned by the home-demonstration agents was carried on by means of

DEVELOPMENT OF HOME DEMONSTRATION WORK BY COUNTIES, DISTRICTS AND CITIES.

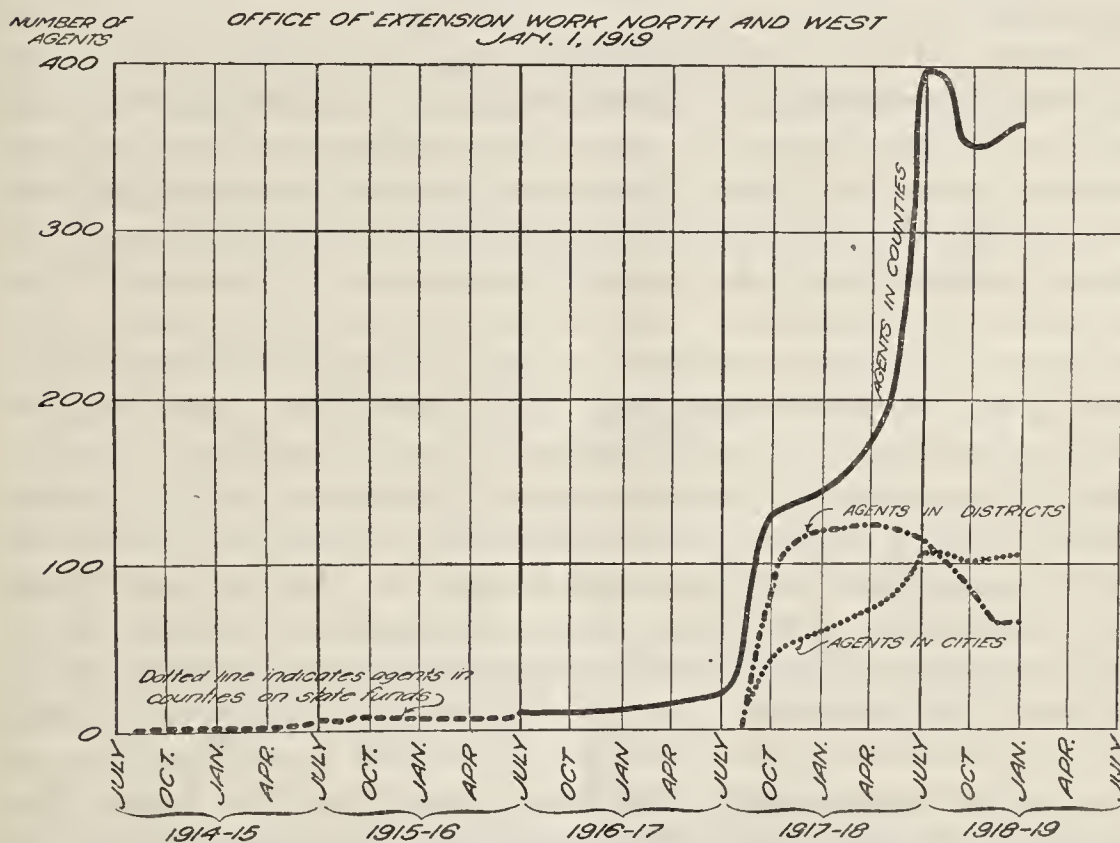


FIG. 5.—Development of home-demonstration work in the Northern and Western States by counties, districts, and States.

demonstration, talks, extension schools, home visits, fairs, exhibits, and food shows. The policy was adopted of giving a somewhat intensive training to well qualified and carefully selected local women who acted as volunteer leaders. Five thousand four hundred and forty-five classes were held and turned out 88,041 such trained volunteer leaders who passed the instructions on to their neighbors through talks, demonstrations, visits, or telephone messages. Forty-six thousand nine hundred and thirty-one demonstrations were given with an attendance of 2,672,254, 34,072 lectures reached 1,410,124 people, 86,670 home visits were made, and 5,622,642 people attended

6,218 fairs and exhibits, making a total of 10,249,616 people reached. The fairs were used chiefly to lay stress on the necessity of the use of food substitutes, and the women extension workers had a large share in planning and directing the exhibits, as well as in giving talks and demonstrations.

RESULTS.

FOOD PRODUCTION.

Among rural home makers the raising of small fruits, vegetables, poultry, rabbits, and bees and the making of butter and various kinds of cheese received special attention. Home makers in towns and cities with the exception of the largest have carried on in some degree the same activities with the exception of the two last mentioned.

Gardens.—The home-demonstration agents reported that they assisted by instruction or supervision in the care of 137,818 home gardens. In one State 300 acres of community gardens produced products valued at \$12,000. The surplus products from these gardens were canned at community canning kitchens. Preservation of the excess products created a feeling of assurance as to the value of the community garden work.

Poultry.—The agents reported a total of 1,745,333 chickens raised under their supervision last year. The home-demonstration agents took an important part in the intensive poultry culling campaigns which were undertaken in Connecticut, Delaware, Idaho, Illinois, Missouri, and Vermont. About 30 per cent of the hens examined in these campaigns were discarded as slackers. One demonstration agent in Missouri reported that in her county she trained 15 volunteer leaders who culled in public demonstrations over 60 flocks, totaling some 3,000 chickens. The estimated saving in expense for feed and care for the hens thus culled was \$2,500, and in addition nine out of ten persons attending pledged themselves to cull their flocks. The canning of chickens was often demonstrated in connection with the culling demonstration, and served to provide for a future meat supply for the family.

Rabbits and bees.—Under the direction of the home-demonstration agent, home makers in Washington and Oregon took up the raising of Belgian hares and 14 States reported the development of beekeeping as an industry for women.

Markets.—The stimulation to production often resulted in more food being produced than could be immediately consumed, and in many instances through the efforts of the women members of the farm bureau, markets were opened and the surplus disposed of at a fair price, which in turn resulted in the stimulation of more and better gardens. Five centers in Massachusetts had community gar-

dens and these cooperated with the canning centers and the markets. Garden products were placed on sale at the markets and all the surplus was cared for at the canning centers. Hundreds of people daily purchased their supplies at these markets. The value of the produce sold in one instance was fruit, \$10,000; vegetables, \$80,000; butter, \$100; and eggs, \$2,000.

FOOD CONSERVATION.

Food-conservation work was conducted in each of the 33 Northern and Western States along the lines of the use of substitutes and preservation of foods.

Use of substitutes.—Comparatively few States have attempted to measure the effect of the work in food conservation in terms of amounts of wheat, sugar, and other foods saved. In 41 counties in Iowa a questionnaire was used and the data thus obtained were supplemented by conferences with the grocers and the housewives. From the returns obtained it was estimated that a total of over thirteen and a half million pounds of flour was saved in these counties. Thirteen of these counties reported a saving of between 50 and 70 per cent. The total saving of sugar was placed at over three and a half million pounds.

During the spring of 1919 the agents took an important part in organizing a potato-consumption campaign, which resulted in many localities in a great reduction in the price of potatoes and as much as a 50 per cent increase in the sales. In one city in Connecticut, during potato week, 16 demonstrations were given by the urban agents, 3,197 recipes were distributed, and it was reported that 324 pecks of potatoes were eaten and 73,730 slices of bread saved. The chain grocery stores reported a 120 per cent increase in their sales of potatoes.

Exhibits of milk showing its food value, use, and preparation were staged in all the 33 Northern and Western States. Demonstrations in the utilization of milk in cookery, modifying of milk for infant feeding, and care of milk in the home had a conspicuous place in the dairy project. Use of dairy products were emphasized and the home-demonstration agents endeavored to get good clean milk on the market at a reasonable price and to impress the fact that milk is the essential food in the diet of children. Investigations showed that much skim milk was being thrown away by the creameries, and a campaign was undertaken to interest farm women and creamery managers in utilizing a part of this surplus in making cottage cheese.

Campaigns were also carried on by both the rural and urban agents in cooperation with the Dairy Division of the Bureau of

Animal Industry with a view to bringing about the use of more cottage cheese. These campaigns resulted in the making of approximately 450,000 pounds of cottage cheese on the farms and its extensive use as a substitute for meat in both country and city. The consumption in the 40 cities where the work was carried on was increased many hundred per cent. For instance, before the 10 days' campaign in a city in Michigan had closed that city had exhausted the 70,000 pounds of cottage cheese that had accumulated in storage, while the daily consumption of cottage cheese in a city in Washington increased from 10,000 to 29,068 pounds.

Selection of foods.—Taking advantage of the interest in food needs and food values aroused by the war emergency and the rising cost of living, the extension workers taught, along with the technique of handling new foods, the simple principles that should guide the home maker in food selection. Many women, who for the first time were consciously grappling with the problem of making the money expended for food purchase the maximum amount of properly balanced nutrients, received needed guidance from the home-demonstration agent. The practical application of the principles of nutrition to the problem of food selection was not lost sight of even during the hectic days of sugar-saving and wheat-saving campaigns. Later, when the need for conserving special groups of foods gave place to the necessity of husbanding our food supply by intelligent selection and use, this phase of the work still received due attention.

Demonstration centers.—An appreciation of the value of concerted action caused the people to pool their energies and interest and with the assistance of the home-demonstration agents they established throughout the country community enterprises through which they work cooperatively and thus they more effectively meet the problems of conservation. Demonstration centers were established to which the people could come at all times for timely advice on all food subjects. Many of these have become permanent centers to which the people may come and discuss their home problems.

Cooked-food centers.—Cooked-food centers were established in industrial centers where simple nourishing food was served to the children for 4 and 5 cents a portion and portions with recipes were sent home to the mothers. Some food centers in Illinois, New York, and Vermont are sending out complete dinners to housekeepers.

Cooperative buying and selling.—Cooperative buying and selling was undertaken by 56 communities. Substitutes and other foods were purchased and sold to advantage. One community sold \$4,359 worth of eggs and another group purchased fruits and vegetables, the retail price of which had been \$11,133.43. Through buying cooperatively they were obtained for \$4,875.56, thus saving \$6,257.88.

PRESERVATION OF FOOD.

No one factor was of greater value in creating definite results in the preservation of food than the varied information and practical assistance given by the home-demonstration agents. In turn, their influence was multiplied many times by the training schools which they held for volunteer workers. Home-economics teachers and selected home makers who were especially skilled received the instruction and gave the information to as many as possible.

Training schools.—One thousand five hundred and fifty-two training schools were held at which the latest information in regard to canning, drying, storage, and brining of meats, fruits and vegetables, and the preservation of eggs was given to 23,003 women. Complete reports of the work in preservation could not be obtained because of the influenza epidemic which prevailed at the time records were taken. Partial reports received show that 12,532,205 quarts of fruit, 8,982,461 quarts of vegetables, 2,572,757 quarts of fruit products such as jellies and jams, 269,717 pounds of meat, and 46,380 pounds of fish were canned; 344,001 pounds of fruit and 804,565 pounds of vegetables were dried; 2,216,221 quarts of vegetables were brined, and 462,370 dozen of eggs were preserved.

Canning and drying centers.—As in the conservation of food it was found to be advantageous to cooperate in the preservation of food, and some 355 canning centers were established in the North and West, there being as many as 57 in several States. Such centers were established in each of the 33 States, in cities, towns, and country, and in all sorts of localities and among groups of all nationalities.

At these centers 101,402 quarts of fruits and vegetables were canned, 9,424 jars of jelly made, and 35,778 pounds of products dried. One county at its center canned food to the value of \$20,347.60. Many centers made an effort to establish their kitchens on a permanent basis by broadening their usefulness and making them self-supporting. Equipment for drying was installed in many of the canning centers and in addition there were 33 centers maintained for drying alone. One community plant in Denver dried 18,215 pounds of vegetables, while one in New Hampshire by charging 2 cents per pound paid all expenses and saved \$4,200 worth of food.

One of the results accomplished through the establishment of the centers was the marked increase in the development of community and social spirit.

CLOTHING CONSERVATION.

Clothing conservation as conducted by the home-demonstration agents had three objects: (1) Conservation of wool, (2) conservation of family income, and (3) the establishment of the clothing

thrift habit. Exhibits, home visits, and volunteer help made it possible for people to receive the desired instruction and conservation suggestions in cleaning, dyeing, and remodeling garments and hats. Eighty-nine thousand seven hundred and sixty-six families gave active cooperation. Clothing conservation work was conducted in 29 of the 33 Northern and Western States. Salvage shops were established in Iowa, Kansas, Massachusetts, Michigan, Missouri, Nebraska, Nevada, Utah, and Wisconsin. Remodeling and renovating of garments, instruction in millinery, and the renovating of hats, in fact all lines of work relating to clothing were undertaken at these shops. In Iowa, where the clothing work was especially emphasized, it was found that more than 36,000 families were interested in this work and approximately \$337,000 was saved.

HEALTH CONSERVATION.

The home-demonstration agent cooperated with other Government agencies in bringing to home makers high standards of health and methods by means of which these may be achieved, and in pointing out to the housewives telling facts regarding the relationship of home diet, sanitation, and recreation to the family health.

The agents assisted in arousing an interest in the medical inspection of school children and such inspection has been adopted in several States. Diets in diseases were recommended, home nursing was taught to volunteer classes, and many families were interested in the campaign for health conservation.

Assistance in influenza epidemic.—The demonstration canning and drying centers, in many instances under the direct management of the home-demonstration agents, were converted into diet kitchens during the influenza epidemic and with the cooperation of the local people trucks and machines were filled with fireless cookers in which hot broths were carried to the sick. These organized centers made it possible to relieve many homes of the responsibility of preparing food for the well and the ill, so that all energies might be expended upon nursing.

Cooperation with the Children's Bureau.—The home-demonstration agents cooperated with the Children's Bureau of the Department of Labor in making Children's Year a success. Infant measuring and weighing was done in cooperation with the child welfare associations and committees. Campaigns for clean milk and to show its value and importance for children and demonstrations showing the care of infants and children were among the activities of the home-demonstration agents. In some of the eastern cities trucks and vans went out into the congested foreign districts and gave demonstrations of food for children.

Hot school lunches.—The hot school lunch is already well established throughout the Nation, but its extension to 409 new schools stands to the credit of the communities in which the home-demonstration agents worked.

Milk stations.—Ten new milk stations established through the efforts initiated by the home-demonstration agents brought the value of milk to the attention of women and have aided in bringing about a higher standard of living and health in the communities.

OUTLOOK.

The specific results for which the emergency funds were made available for home-demonstration work were achieved. The home-demonstration agent was intrusted with a great responsibility and one which demanded concrete evidence of its fulfillment. The statistics show that more was accomplished in actual material conservation than was deemed possible. Home keepers became convinced by direct concrete methods and practices of the value of conservation.

Conservation as developed in home-demonstration work while focusing the attention of all upon certain specific needs of the hour as relating to food, clothing, and health gave glimpses of the greater principles of the fundamental relationship between diet, health, labor, and income. Women and men of the homes of the city and country caught a view of the meaning of these principles and recognized it as meeting a long-felt need, a need which is being realized as one of the greatest during the reconstruction period just before us.

Many cities and counties have given evidence of their appreciation of the part that home-demonstration work can play in the realization of this need, and have given the cooperative financial support necessary to the continuance of a work which has proved its right to be placed among the foremost economic movements of the day among women.

BOYS' AND GIRLS' CLUB WORK.

PLAN OF WORK.

Extension work with boys and girls preceding the war was planned with a view of improving agriculture and fostering interest in the home through demonstrations of better practices in crop production, animal raising, home canning, garment making, bread making, and allied subjects. The urgent need for food created by the war made it necessary to enlarge the plan of food production and conservation as well as to encourage thrift in all its phases. The club work with boys and girls was organized and conducted during the year with this especially in view.

ORGANIZATION.

Up to June 30, 1918, farm bureaus in 385 counties had been so organized or expanded, with the assistance of club leaders, as to include in their programs of work activities for boys and girls. The cooperation previously developed with the public-school system for conducting the work was maintained, and in a number of States other educational agencies cooperated in organizing club work for increasing food production. The cooperation of granges, business organizations, fair associations, and other public-spirited organizations was also secured.

LEADERSHIP.

Such competent full-time and part-time leaders as could be provided under the emergency appropriations allotted were added to the regular pre-war cooperative club forces. The number of paid club leaders in the Northern and Western States increased from 391 on June 30, 1917, to 985 on June 30, 1918, of which 596 devoted full time and 389 part time to the work. Many of the part-time leaders were trained and experienced local leaders employed during the summer months only.

The supervision and direction of club work was further greatly reinforced by 13,988 volunteer local leaders who gave their time to the guidance of club groups in their communities under the direction of paid leaders. Many of these volunteer local leaders not only stimulated the boys and girls to take an interest in farm and home improvement, but also developed in themselves qualities of leadership which are having direct influence in improving general community conditions.

Much attention was given by the club leaders to follow-up work in order to encourage and stimulate the club members in their efforts. Individual clubs were visited at regular intervals by the leaders. Field meetings were held, generally on one of the club plats, at which the members reported on the progress of the work and received instructions, often in the form of demonstrations regarding procedure. Teams were trained to demonstrate at public meetings in the community. These demonstrations served to stimulate the parents of club members and other men and women in food production and conservation and proved to be one of the most effective means of direct appeal to the general public during the war. Club meetings for inspirational purposes as well as for instruction were also regularly held. Fairs for showing exhibits of products as well as for judging contests were encouraged. In many counties club festivals were conducted during the summer. At the close of the

season or of the work of the club project, achievement day meetings were held, at which suitable awards were given to those completing the required work. The leaders reported that 204,745 visits were made to club plats, 22,750 field demonstrations and 8,586 canning and 1,312 bread demonstrations were given; 4,498 exhibits held; and 4,532 club fairs and festivals and 1,266 achievement day meetings were conducted.

For the purpose of raising the standard of work in the club, arrangements were made for standard club charters (fig. 6) to be awarded by the Department of Agriculture and State agricultural colleges to those clubs which met certain requirements, and seals of achievement to the standard clubs which met certain other requirements. During the year 6,214 groups of boys and girls organized as standard clubs.

Along with the efforts to raise standards of work in the club groups, special efforts have continued to be made to get boys and girls to achieve high standards in their individual work. Local, county, and State-wide championships in the different projects are awarded according to the State basis of awards, which includes cost of work, yield, profit, and rating of exhibit, record, and story. Each State champion automatically becomes a life member of the National All-Star Club. Official records submitted by State leaders show that for the calendar year 1918, 119 such State championships were awarded. These champions are encouraged by their local, county, and State leaders to become community leaders themselves, thereby making a definite contribution toward raising the standard of the community itself.

Junior short courses were held in numerous instances by the State agricultural colleges for the county championship in boys' and girls' club work. These short courses have inspired many of the club members attending with the desire to take the four-year agricultural or home-economic courses offered at the colleges.

The club leaders were assisted in directing the work by means of instructions sent them regularly and by printed instructions on the work in the different projects sent for distribution to club members. The Department of Agriculture in cooperation with the State colleges of agriculture furnished in all more than 6,351,500 pieces of material for this purpose.

Many of the State agricultural colleges are now issuing monthly a paper devoted entirely to news pertaining to better methods for promoting boys' and girls' club work. This news service to the leaders is reinforced by mimeographed material containing suggestions for improvement of extension activities, sent out from the Washington office.

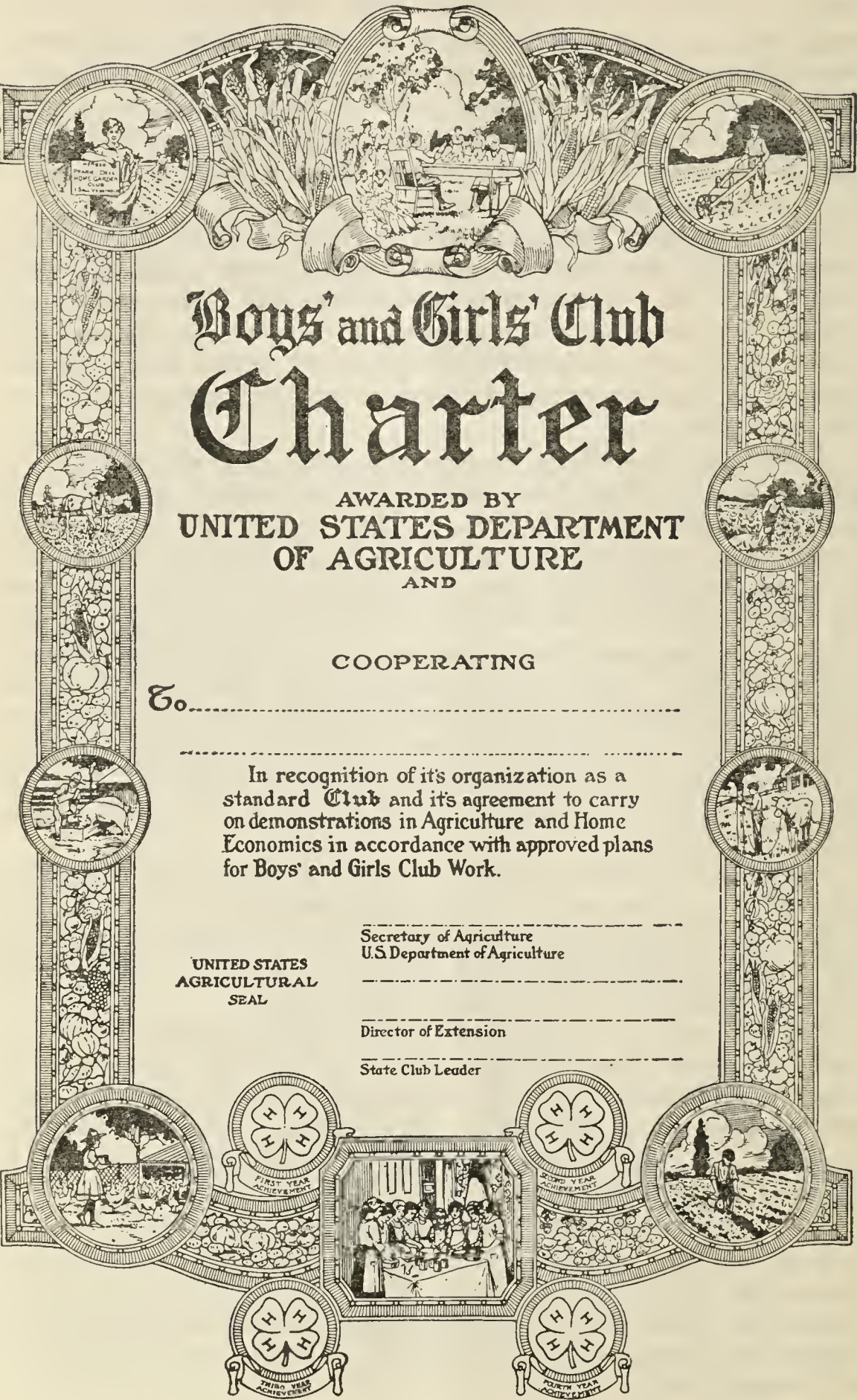


FIG. 6.—Boys' and girls' club charter.

To better prepare leaders for the club work 2,013 conferences were held in the several States. A national conference of State leaders and their assistants was also held, following which the State leaders called conferences of county club leaders, who in turn called meetings of volunteer leaders. By this system the best ideas of the club leaders were carried to those most immediately charged with organization and supervision of extension work with boys and girls.

FOOD PRODUCTION.

The year's program of work with boys and girls was planned to help in meeting the demand for increased production of food and strict economy in its use. Garden projects were especially emphasized. The reports of 115,725 of the 243,406 members regularly enrolled in these projects show that the reporting members cared for 2,987,984 square rods of land and raised vegetables of an estimated value of \$1,693,520. Besides those regularly enrolled in clubs and furnishing a complete report of their garden work, there were 593,090 boys and girls who, under the direction of club leaders, grew war gardens which produced vegetables having an estimated value of \$1,954,347.

Because of the demand for fats, more clubs were organized for growing and breeding pigs. Of the 31,476 regularly enrolled club members in this project, the 12,974 reporting produced 4,423,081 pounds of pork estimated as worth \$947,570. To help meet the shortage of beef, additional baby beef clubs were organized in sections where feed was plentiful. The members of these clubs reporting produced 589,123 pounds of beef valued at \$106,231. Rabbit and chicken clubs were organized to meet the shortage of meat in the home. The members reporting raised 26,322 rabbits and 331,072 chicks, and produced 133,566 dozen eggs.

To meet the shortage of wool, boys' and girls' clubs were urged to increase their production of sheep and especially handle the orphan lambs which were dying by the thousands in the large sheep areas. As a result 8,005 lambs were successfully raised. Clubs also raised 2,474 calves for dairy purposes.

In addition, club members reported having produced 313,778.9 bushels of corn, 646,503 bushels of potatoes, 22,399 tons of sugar-beets, and 2,867 bushels of beans.

FOOD CONSERVATION AND THRIFT.

Canning.—The canning of fresh vegetables and fruits for winter use was one of the chief projects during the year. Throughout the year the canning of meats was emphasized. Much poultry especially during the culling season was thus conserved. In certain sections

of the country a large amount of rabbit meat as well as venison was also canned. In addition, many dollars were saved and much food conserved by canning fresh and salt water fish in places where they were plentiful.

At the outbreak of the war many homes were not equipped to can surplus fruits and vegetables on a large scale without interfering with the ordinary kitchen operations. In many cases boys and girls equipped separate rooms or houses for their canning work. Within the last few years a number of community canning kitchens have been established in order that both boys and girls and adults might be brought together for work and instruction by competent leaders in canning, and during the season 1918 there were in the Northern and Western States at least 150 of such kitchens to which the boys and girls were able to take the large quantities of vegetables produced in their gardens. In addition to its economic usefulness the community canning plant had a socializing influence, as it enabled the people of the community to get together for play as well as work.

In order to get more people to conserve food, 8,586 public canning demonstrations were given by club members.

The reports for the calendar year 1918 show that club members put up over 1,997,964 quarts of fruits, vegetables, meats, and soups, and 162,523 jars of jelly.

Drying.—Drying of fruits and vegetables and the jerking of meats, especially wild game in the mountainous sections of the country, proved a valuable means of conserving food. Through demonstrations and work by club members, over 42,909 pounds of dried food was thus saved.

Saving of wheat, fats, meats, and sugar.—Bread-baking clubs demonstrated the methods of using wheat substitutes in the home. These clubs made in all over 193,207 loaves of bread using the wheat substitutes, and gave 1,312 public bread demonstrations. Many members reported also that they were now doing the regular baking for the family.

In the cooking clubs, work was carried on to increase the use of vegetables and poultry products and to encourage the use of less meat, fat, sugar, and wheat flour. The aim of the members in these clubs was to prepare attractive, well-balanced, nutritious meals conforming to the regulations of the Food Administration. During the calendar year the club members prepared 43,190 baked dishes and served 616 meals to their families.

Remaking, care, and repair of clothing.—As a thrift measure club members were organized to make over and repair clothing for themselves and the family. One hundred and ninety-eight thousand eight hundred and twenty-two garments and articles were made, remodeled

and repaired, of which 13,864 garments were made over and 14,107 repaired. In addition to the regular work outlined for the year, 98,500 garments and articles were made for the Red Cross and for French and Belgian orphans. Members reported in many cases that they are now helping with the family sewing.

Pit and shell drives.—During the summer of 1918 in response to the urgent appeal of the Chemical Warfare Service, Gas Defense Division of the United States Army for the collection of seeds, pits, and fruit shells to be used in making carbon for gas masks for our army and those of the Allies, an intensive campaign was conducted by the club leaders and special "contests" and "drives" were introduced. As a result tons of pits and shells were collected and forwarded to the Army through the agency of the American Red Cross.

Summary of results.—The table below gives a summary of the different projects of work, club groups organized, enrollment, members making complete reports, in the different projects, together with the estimated value of food produced and conserved by the reporting members:

Summary of results of club work.

Project.	Clubs organized.	Enrollment.	Members reporting.	Estimated value of product.
Corn.....	841	13,864	5,723	\$453,158.99
Potato.....	1,240	23,316	11,307	650,093.69
Home garden.....	6,057	243,406	115,725	1,693,520.58
Home canning.....	3,898	78,927	41,823	829,125.59
Mother-daughter canning.....	235	5,024	3,498	53,362.20
Sugar beet sugar saving.....	98	1,822	1,398	225,814.10
Poultry.....	2,171	37,723	16,128	402,237.69
Baby beef.....	162	2,469	985	106,231.22
Pig club.....	2,331	31,476	12,974	947,570.00
Bread club.....	1,100	18,583	8,706	43,077.33
Garment making.....	2,356	38,239	18,951	116,218.04
Handicraft.....	84	2,131	488	3,022.62
Dairy calf.....	301	4,332	2,552	167,737.41
Home economics.....	16	3,987	3,144	7,071.13
Sheep club.....	257	3,613	2,341	131,173.40
Bean.....	150	1,861	1,137	60,067.32
Rabbit.....	341	3,196	1,249	21,467.47
Miscellaneous.....	207	13,754	2,903	108,143.19
Total.....	21,845	527,723	251,032	6,019,092.06

PERMANENT EFFECTS OF BOYS' AND GIRLS' CLUB WORK.

Development of economic responsibility.—Club work is developing property ownership among the members. This is aiding materially in solving the problem of keeping the boys and girls on the farm. The 210 champions from the various counties of Minnesota in attendance at the regular short course at the State agricultural college in April, 1919, had acquired property as follows from their club-work profits during the past two years: One hundred and twenty-nine owned War Savings Stamps. 60 had bank accounts, 12 owned

Liberty bonds, 25 owned one or more pure-bred pigs, 47 owned poultry flocks and poultry equipment, 30 owned one or more pure-bred dairy calves or cows, 10 owned sheep, 10 had purchased lots of one or more acres of land, 24 had purchased kitchen equipment and household furniture, and 65 still own a liberal supply of home canned food products.

During the past year, for several weeks, all members of the freshman class at the Minnesota agricultural college had been club members.

Data from 195 boys and girls from as many farms in Michigan show that out of this number 103 had bank accounts as a result of net profits obtained from club work during the past year; 134 had purchased War Savings Stamps, 48 had purchased Liberty bonds, 18 of the girls had purchased kitchen equipment, 15 club members owned pure-bred pigs or sows, 8 owned sheep, 19 owned pure-bred dairy calves, and 25 owned poultry flocks and equipment. Sixty-eight club members stated they had been aroused through the boys' and girls' club work to the need of further training in agriculture and home economics, and were planning to take regular courses in these subjects.

Improvement of general farm and home conditions.—Club work is proving effective in demonstrating to adult farm people of the country better methods of agriculture and home making.

In Maine, potato clubs were organized for the purpose of interesting the boys and girls in producing certified potato seed and as an object lesson to the farmers who had become careless or indifferent to the seed-potato trade. The club potato plats were inspected by the bureau of seed improvement of the Maine State department of agriculture. One club reported that 20 acres passed the first inspection, 18 acres passed a second inspection, and that the half-acre plat of one club member passed a perfect inspection. At harvest time two carloads of certified potatoes were sold to the Eastern States Farmers' Exchange for spring delivery at \$5 per barrel. Plans were later under consideration to send a third car of the same class of seed potatoes to the same organization for distribution to boys' and girls' potato club members in Massachusetts. Encouraged by their success, the Maine boys and girls have formed a corporation to conduct the business on a larger scale than during the past season.

In California, boys' agricultural clubs are developing a bean that bears 185 pods to the plant as compared with 40, the average number per plant. The demand for selected bean seed in California has increased to such an extent that many club members of the State are planning to make a regular business of selling this seed to the farmers. Some have reported that their fathers are going into partnership with them.

The live-stock industry is being stimulated and improved by the various live-stock clubs, such as pure-bred heifer clubs and pure-bred pig clubs, the pure-bred stock introduced by the boys being used as the foundation for pure-bred herds. This work is generally done in cooperation with the county live-stock breeders' association. Pure-bred sow pigs raised by the club members are often sold to neighboring farmers, thereby spreading the influence of better stock throughout the community. This type of club work has been particularly successful in Iowa, Wisconsin, Indiana, and other States of the Central West, in the Eastern and New England States where there are many dairy calf clubs. Boys' and girls' club work has also been the means of introducing pure-bred swine into the Western and Southwestern States. A specific illustration of how boys' and girls' club work is helping live-stock industry is reported from Utah. Two years ago the State club leaders purchased eight carloads of pure-bred gilts for distribution to club members of the State. This start stimulated the hog industry of the State and it is estimated that there are now twice as many farmers in the State raising pure-bred hogs as formerly. In addition to this about 2,000 boys and girls have made a good start in hog farming.

Improvement of the community.—The club group organization is improving the social conditions of young people in both rural and urban communities. Through the club group each community can furnish its own leadership and by cooperative effort make the social, educational, and economic agencies of the community more efficient. The effects of the increased appropriation for war purposes will thus be permanently felt. Club work will also continue to benefit permanently in fitting for better citizenship all boys and girls enrolled in it, especially those who are not in the public schools.

SPECIALISTS.

The extension specialists at the State colleges of agriculture give the whole or a great part of their time to extending the teaching of the colleges and demonstrating the results of the work of the experiment stations to persons located in various parts of their States. They represent the chief agricultural interests of the States and plan to carry their teachings by demonstrations, lectures, and publications to the farmer. The work is conducted with the county agents, whose cooperation is sought in properly locating and observing the progress of demonstrations and in extending the results to groups of farmers.

The extension specialists of the United States Department of Agriculture have endeavored to convey some of the best plans and methods for extension work from State to State. They have also

carried to the State extension organizations the results of investigational work conducted by the Department of Agriculture. The meeting together each week of the specialists who are in Washington for the discussion of extension problems has developed a consideration of these problems from a national standpoint as well as from the standpoint of a region or State. Since all lines of work center in the farm, the specialists have considered the relations and value of their particular specialty within the limitations of good farm management. The funds of the department bureaus for extension work were used for extension workers either with headquarters at Washington or located at the State colleges. In the latter case they were often cooperatively employed. In general their work was conducted under cooperative agreements defining the character of their work and their relations to the subject-matter departments of the colleges. Department specialists cooperated in the work on dairying, animal husbandry, poultry, plant and animal diseases, rodent pests, insect pests, and marketing.

FARM MANAGEMENT DEMONSTRATION WORK.

The purpose of farm-management demonstrations during 1918 was to support the war program by developing efficient food production on the farms. It was thought this could best be accomplished by assisting farmers in the study of their business so that they might be able to determine, first, what enterprises and how much of each should be included in the farm business, and, second, in what ways labor efficiency might be increased.

Twenty-two of the Northern and Western States cooperated in the work during the year. The demonstrators in these States trained county agents in order that these latter might more efficiently assist farmers to keep and study records of the farm business. To farm bureaus much attention was given by the farm-management demonstrators. In this way an attempt was made to reach the maximum number of farmers through cooperation with these agencies. Cost-accounting schools were held in various States. A summary of the cost-accounting campaign in Iowa shows that 1,181 farmers were reached and that 247 undertook records on corn, 234 records on hogs, 135 records on beef cattle, 71 records on dairy, 19 on sheep, 2 on oats, 1 on wheat, and 1 on sweet clover. The demand for instruction in cost accounting by farmers has been so great in many other States that much of the work is being conducted with groups rather than with individuals. Farm management subject matter was presented at extension schools in local meetings and in personal conferences with farmers on their farms. In each of these States this work was in charge of a farm-management demonstrator. Assistant

demonstrators were employed in a few cases and gave special attention to the work throughout the year. Thirty-four workers devoted their services to farm-management demonstrations in 1918. The salaries of this staff, together with field and office expenses, involved a total expenditure of approximately \$90,000. About \$58,000 of this amount was supplied by the United States Department of Agriculture, the balance being contributed by the cooperating States.

Farm accounts.—It has been estimated that some 500,000 farm-account books prepared by demonstrators were put into the hands of farmers through the extension agencies by banks and by other commercial concerns. Complete returns have not been reported in connection with the distribution of these books. However, it is safe to estimate that a fairly large percentage of the men receiving these books gave some attention to the matter of keeping a farm record. In one State in the corn belt 9,037 account books were distributed through the farm-bureau offices. Account books were also distributed by banks and many copies were secured by farm operators directly from publishing houses. Reports from the county agents show that 17,835 of these books were kept through the year, and 6,860 farmers were assisted in summarizing their accounts. The keeping of these records of farm business has in 3,444 cases resulted in the farmers making certain adjustments in business management to their profit. It is not possible to reach all the men who request and use the farm-record book, but as far as possible assistance is given to the men who are vitally interested in solving their problems.

Enterprise accounts.—In many cases it is difficult to get a man to keep a complete farm account, but he may be particularly interested in a special crop or a given class of live stock. In cases of this character the enterprise or project account has been used to good advantage in getting a man started. This method of approach has been employed in several States and the results have been very gratifying. It is the plan at the beginning of the second year to get this man to change to the regular farm account. Sufficient evidence is available to show that men who have previously maintained a partial record dealing with one phase of the farm business take up the complete account much more readily. The experience gained in the former work is of very great value in developing the latter.

Extension schools.—In several States extension schools were centered around the farm-management idea. A talk on the business side of farming was given at the opening of each school. In dairy sections the main point brought out had to do with the importance of a sufficient number of good cows, the right crops grown for feed, and such additional cash crops as possible. This part of the work was handled by the farm management extension men. The farmers then took up the discussion from the standpoint of how to secure

good production from cows, touching on the breeding, feed, care and management. The farm-crops man was especially concerned with the production of better roughage for cows, particularly some clover hay. In this manner the work of all the extension men was built up around the single idea—producing efficiently the products to which the farms were adapted. The result in this case undoubtedly assisted the men in this State in developing a more successful farm business.

Outlook.—Farm management demonstration work has been greatly affected during the year by the war. At the outset it appeared important that the field agents modify their work slightly to give more direct aid in the farm-labor problem, which had become somewhat acute because of the draft and still more because of the need for men in the industries directly relating to war.

The enactment of the income-tax law directly affected many farmers, necessitating a knowledge of farm receipts and expenditures. This was a direct aid in stimulating the keeping of accounts by farmers. Advantage was taken of this by the demonstrators to teach not only the keeping of accounts, but, what is more important, how to summarize them and how to analyze and digest them at the end of the year, and thus see the relative importance of the various farm enterprises considered from a profit and loss standpoint. It also enabled farmers to know with some degree of accuracy what it cost to produce various farm products and gave a basis in some cases for price adjustment to cover cost as a war measure. The work is steadily growing in efficiency. As regards field methods and their value it is increasingly appreciated by county agents, farm bureaus, and all extension agencies interested in farm and community development. The work is further serving to stress the need of increased farm-management investigation and teaching in the colleges of agriculture. The work is developing as one of the most fundamental and valuable of all extension projects.

SOILS AND CROPS.

In most of the States the work on soils and crops was planned to meet the war need for food and feed, with much less regard for maintaining the productivity of soils than when conditions are more nearly normal. Crop rotations were thus upset, and in the Eastern States the scarcity of fertilizers was responsible in many sections for cropping methods that would be called unbalanced under normal conditions.

Shipment of fertilizers was necessarily restricted, while the use of sulphuric acid for making acid phosphate was prohibited for a time owing to its need for making munitions. This condition forced upon the States east of the Mississippi River the problem of

using every possible means of utilizing the fertility resources at once available, and of so organizing them as to secure the biggest crops possible. The use of fertilizing materials on the poorer fields—the customary practice—was changed, as the limited fertilizing materials available would produce more when applied on better fields. Moreover, a minimum amount of labor would be far more effective on the better fields. In a large number of cases the county agent was the guide in selecting the field to be fertilized. In the Central and Western States, where little or no fertilizer is used, the same plan of putting all labor available on the best fields was urged and followed. Hence the soil specialists in the Northern and Western States put aside the usual plans for upbuilding soil fertility and bent every energy to so handling the Nation's soil resources as to get the largest temporary crop yield.

Restrictions on the shipment of commercial fertilizers stamped on the minds of farmers, as nothing had before, the waste involved in paying freight on the "filler" used in low-grade mixed fertilizers. Normally the higher the analysis the lower the cost per pound of available plant food. Further, heavy sods plowed down, or organic matter otherwise secured, will produce good yields with relatively small applications of commercial fertilizers. In those sections of the country where acid soils prevail, moreover, these heavy sods were on soils that had been limed. These factors of soil fertility so effectively used not only brought abundant harvest in this critical year, but the principles of economic soil management as we return toward normal conditions were also effectively demonstrated. For example, grain became so high in price in the East that farmers were forced to grow more legume roughage and silage for their dairy cows. This compelled better soil management also, based on methods that will increase farm profits in these sections even after the price of grain goes down.

The farm-bureau organization was the most effective agency through which the soils and crops extension specialists worked, but the results varied greatly. It was easy to arrange for increased production in counties where farm demonstrations on improving soil fertility had been conducted. In unorganized counties the specialists covered as much ground as possible cooperating with granges, corn growers, and pure-seed growers' associations, but a given amount of effort brought much smaller returns than in counties having farm bureaus.

The most important piece of agronomy work was with the corn crop. Owing to seasonal conditions in 1917 the corn available for seed in 1918 was very low in germinating quality. Careful tests showed clearly that untested corn was very unsafe to plant. With

the time for planting corn fast approaching this information brought multitudes of farmers face to face with a situation of being without dependable seed and they did not know where to get a supply. New sources of seed had to be found quickly. This the organized agricultural extension service was able to do, thus tremendously increasing the yield of corn this year.

Without careful direction such transfer of seed would have resulted in the planting of ill-adapted varieties. But this risk, too, was obviated through the cooperation of the extension forces of the different States in the selection of only such varieties as would be certain to meet the particular conditions of climate and soil concerned. As an illustration of this work, the extension service of Ohio brought 67,000 bushels of seed corn from Delaware; and in Michigan the crop specialists selected and had shipped into the State a similar amount from Delaware and South Dakota. In Pennsylvania 35,000 bushels and in New York 50,000 bushels of seed corn were located and distributed.

Through the cooperative efforts of the county agents and the crop specialists seed wheat was placed with regard to soil and climatic adaptations in so far as possible, and the yields were thereby greatly increased. This is illustrated by the work in South Dakota, where in favorable seasons winter wheat outyields spring wheat, yet on account of the risk from winter injury to the former, spring wheat is mostly grown. With 40 cooperators, Acme wheat, a variety of durum spring wheat, developed at the college, yielded 25.8 bushels per acre, with rust resistance of 99.8 per cent, while other varieties averaged 14.7 bushels, with rust resistance of 67.5 per cent. With 19 cooperators in 16 counties the Sixty Day oats averaged 51.2 bushels, other varieties 40.2 bushels. It is estimated that during the last five years the State yield of oats has been increased by 5 bushels per acre through variety improvement and better practices in growing and handling the crop.

There is, fortunately, a growing tendency in extension work with soils and crops not to stop with covering the single factor in the business of growing a crop successfully that may first need attention—as treating oat seed to control smut—but to connect this as time and conditions permit with all the other factors that concern the profit of growing the crop. For example, in Ohio the extension soils specialist carried on a wheat campaign which included selecting the soil with reference to its character and the place in rotation, preparing the soil by tillage and fertilization, and also liming the field to provide for successful seeding with clover. Such a plan takes into account the entire soil resources of the State and shapes an extension cropping and feeding program accordingly.

ANIMAL HUSBANDRY.

The necessity for the production of meat, especially pork, invited attention very early in the year. Hog-production campaigns were organized in all of the principal corn-raising States.

The demand for wool and mutton was also increased by the emergency created by the war, and the requirements for beef to feed the fighting forces called for the maximum production of beef cattle.

The campaign for the increase in hog production covered the following points: (1) Increase of the number of sows bred in the fall. (2) The feeding of hogs to greater weight for marketing. (3) Better care of brood sow and litter. (4) The prevention of diseases.

To accomplish these purposes some States were divided into districts, in each of which was placed a man who from time to time brought to the attention of the farmers the most essential points in hog production. Iowa reported an increase of 22 per cent or 3 brood sows per farm. In the spring the district men discussed the best methods of caring for the sow and her litter.

The prevention of diseases was conducted to some degree in co-operation with those in charge of either the educational or regulatory work in the control of hog cholera.

The appeal to farmers to feed hogs to greater weight was intensified by the unmarketable condition of the corn crop of 1917. The self-feeder was very generally introduced in order to save labor and at the same time to secure a more rapid increase of flesh and at less expense than is secured from the usual methods of feeding. In Indiana 112 hog-feeding demonstrations were conducted, principally with self-feeders. A specialist from the agricultural college in co-operation with the county agent visited and held meetings on the farms where these demonstrations were conducted. In Nebraska, demonstrations were made in the slaughtering and curing of meats for home use. Slaughtering demonstrations were conducted at a central point in the county where representatives from townships or communities had assembled. These persons in turn carried the instruction to the local units, where they instructed small groups of farmers.

Live-stock associations were organized by counties for the purpose of securing more highly-bred animals and in some instances for the purpose of buying feeds cooperatively. This plan resembles work done by the dairy specialists in the organizing of bull associations. The members of the breeders' associations individually purchase pure-bred sires, which are again put on the market if it is desirable to transfer them to other areas.

An exemplary plan for the improvement of live stock was found in Wisconsin, where the live-stock specialist had conducted a cam-

paign for the use of pure-bred sires; the person having a scrub bull was given a pure-bred bull calf in exchange. In five weeks 43 cows had also been exchanged for pure-breds.

Many live-stock judging demonstrations were conducted at extension schools, county and community fairs, and for boys' clubs raising live stock.

Much interest was aroused in the increase of sheep, both for wool and mutton production. In addition to flock management, maintenance of health, stock selection, and breeding, which was largely promulgated by means of lectures, demonstrations, and conferences, wool pools were formed for marketing cooperatively the clip of the season. In 19 counties of one of the principal sheep-growing States 327,924 pounds of wool were cooperatively assigned, an increase of from 7 to 10 cents per pound over local prices being secured. In Nebraska, 10 active sheep organizations pooled 15 carloads, which were graded before leaving the State. In Missouri, 9 demonstration sheep farms were established.

POULTRY HUSBANDRY.

Several problems presented themselves to the poultry growers of 1917-18, chief among which were the restrictions made on the use of wheat as part of the ration and the high prices of other feeds, especially in the New England States, where the growers had been buying much of their grain. With the restrictions on shipping, the difficulty of securing feed added to the stifling of the poultry industry. The North Central States, having a comparatively large food supply, had less difficulty than did the Eastern States.

The conditions enumerated above made it necessary for the poultry raiser who desired to market eggs to eliminate nonproducing hens. The culling of flocks was therefore the principal feature of poultry-extension work during the past year. Discarding roosters resulted in a saving of feed and the production of infertile eggs. In Indiana, Michigan, and Missouri, the poultry specialists selected the leading poultry counties and instructed the county agent and township, community, or local leaders by giving them a one-day poultry culling demonstration. These persons returned to their communities and instructed others interested. As a result almost every farmer was able to eliminate from 20 to 40 per cent of his flock without reducing the egg yield. In Missouri, 17,239 persons were instructed in this work in 31 counties. The number of flocks culled was 7,383, from which 283,693 hens were discarded. The value of feed saved was estimated at \$177,800. Thirty-seven and eight-tenths per cent of the hens selected for discarding were kept for one week. They laid only 3.3 per cent of the eggs produced by the flocks culled.

Campaigns to discard roosters were conducted in 56 counties in Indiana. Four hundred and thirteen poultry and produce dealers cooperated with the specialists and the county agents by distributing literature concerning the keeping quality of eggs. To encourage the elimination of roosters the dealers offered from 1 to 1½ cents per pound more than the usual price for male birds. Ninety-seven thousand seven hundred and two roosters were marketed. It was estimated that in these 56 counties over 30 tons of feed were saved.

The modification of the feeding ration to save wheat was perhaps of next importance. This was carried out by the specialists in cooperation with the county agents and the public press. Bulletins were published by the extension divisions of the States and distributed to farmers directly or through the county-agent office. Condensed articles recommending wheatless rations were also published in the weekly and daily newspapers. In nearly all of the States in which this work was conducted poultry-demonstration farms have been established, on some of which the best breeding stock from the experiment stations and the college of agriculture have been placed by purchase. In a few counties of Missouri, demonstration farms were placed in the center of an area 3 miles square. One State had 16 demonstration farms in 8 counties; another, 32 such farms in 8 counties. In Maine and Michigan well-planned campaigns for the building of new henhouses and for the remodeling of old houses were conducted. In each of these States the specialist, in cooperation with the county agent, conducted what were called building bees, at which a few farmers equipped with necessary tools assisted in the remodeling or building operations on a neighbor's farm, with the result that what might be considered a model henhouse for the community was constructed.

DAIRYING.

The unusually high prices for beef, the high cost of feed, and the high cost and shortage of farm labor added to the difficulties under which dairy extension work was conducted and caused many dairy cows and calves to be slaughtered which under normal conditions might have been retained for dairy purposes. The high prices of feed in parts of the country where long shipments were necessary added very much to the struggles of the dairyman to remain in business. The shortage of farm labor that could be relied upon for daily assistance on the dairy farm and the constant efforts of the consumers to lower the prices of market milk produced a degree of uncertainty not felt to the same degree in other kinds of farming.

The problems for the dairy extension specialist this year were not different from those of any other year. They were merely accentuated.

ated by abnormal conditions. It was especially necessary to eliminate the low-producing cows in order to secure a maximum yield of milk from the quantity of feed used, and to produce, store, and feed rations economically. Gradual improvement of dairy herds from the results of breeding was continued and expanded. In many of the most important dairy States cow-testing associations have been organized to eliminate the low-producing cow, but on account of the shortage of properly trained men to act as cow testers this work has been somewhat unstable. The Newaygo (Mich.) Cow-testing Association, the oldest in the United States, found it necessary to suspend operations for the year, but the average yield of butter fat per cow in this association has been increased in ten years from an average of 215 pounds to 275 pounds. From the State of Wisconsin, where cow-testing associations are most numerous, 112 in number, thousands of cows have been purchased and shipped to other States on the strength of their records in the associations. In States where it has been found impracticable or untimely to organize associations, many farmers were encouraged by the extension specialist to use milk-record sheets and were advised as to the change of ration warranted by the record of the cow.

In Indiana, 16 $\frac{2}{3}$ per cent of the cows tested were eliminated from the association herds. In Iowa, 1,529 cows were sold, 75 per cent of them for beef. In Pennsylvania, records of one cow-testing association for the past three years show an average increase per cow of 565 pounds of milk and 32 pounds butter fat in the third year as compared with the first. During this time the feed cost per 100 pounds of milk dropped from 90 cents to 65 cents, and the cost of 1 pound of butter fat dropped from 23 cents to 16 cents, and the returns from every dollar spent for feed rose from \$1.64 to \$2.34, an increase of 70 cents, due to more economical feeding and the elimination of boarder cows. From similar work in 11 other counties, increases in profit ranged from \$10.10 to \$32 per cow, an average of \$21.60.

The dairy specialists, the agricultural engineers, and the crop specialists have cooperated to some degree in advocating the growing of more leguminous crops and in the promotion of silo-building campaigns. In most States the latter campaign was initiated by the dairy specialist, who sought the assistance of the manufacturers and the county agents in putting on their campaigns. In Indiana this work was so carefully organized that the manufacturers contributed to an advertising fund, the banks supported the work in a financial way, and the county agents arranged meetings, with the result that over 8,000 new silos were constructed by the middle of September. Similar campaigns were conducted in other Western-Central States. In Wyoming and Nevada demonstrations have been conducted in the making of ensilage from sunflowers.

The improvement of breeding was brought about by the organization of bull associations; by breeding associations, a feature encouraged principally by the county agents cooperating very closely with the dairy specialists; and by the introduction of dairy calves into boys' dairy clubs. These animals have been selected upon the advice of the dairy specialist and purchased by boys whose intention it is to rear them to maturity. In order that the physical characteristics of good dairy animals might be known, instruction in the judging of dairy cattle has been given in extension schools, farmers' meetings, to boys' clubs, and at county fairs.

Additional work has been done in the way of recommending changes in dairy barns, the building of milk houses, and the adjustment of milking machines and separators to do their work with the greatest degree of efficiency.

The principal problem in dairy manufacture was to bring about the proper care and handling of milk and cream by the farmer preceding its delivery to the creamery. Second in importance, perhaps, was to induce creameries to purchase cream on grade and, third, the proper plumbing and equipping of creameries to bring about sanitary conditions within the creamery and to effectively sterilize cream.

In Iowa, South Dakota, and Wisconsin there are many cooperative creameries. Farmers and the persons in charge of creameries were visited and recommendations were made as to methods of cooling the milk on the farm and for sterilizing it at the creameries. In Iowa, at a creamery where only 50 per cent of the cream was delivered sweet in 1916, the adoption of cooling tanks and the construction of milk houses properly equipped resulted in 80 per cent of the cream being delivered sweet in 1917. In Iowa, 45 cooling tanks and 7 milk houses were constructed for demonstration purposes. In South Dakota, 49 visits were made to 6 creameries to make a study of the conditions under which the milk was handled and to advise as to reconstruction and the use of exhaust steam for sterilizing purposes.

In Wisconsin, extension work was conducted in a few communities in the bettering of conditions for making cheese the same way as that for bettering conditions in the making of butter. The loss from bloated cheese in one factory was so great that it was decided to close the factory. After repiping the waste steam to the milk vats, practically no losses were experienced and the cheese was manufactured at a profit.

HORTICULTURE AND POMOLOGY.

The problems needing attention in the growing of vegetables were the producing of disease-free plants, earlier maturing crops, growing of truck-crop seed, liming of soils, helping to maintain fertility

by use of cover crops, preparation of vegetables for marketing, and home-storage facilities.

The problems before the extension pomologists covered all of the essential features of fruit growing, from ordinary pruning, spraying, thinning fruit, and bridge-grafting injured trees, to the more complex ones of grading and packing fruit and handling the crop. That the home orchard is disappearing from lack of care or from utter neglect in many parts of the country is well known, and in most instances the extension problem was of the home orchard, though in some cases it was of commercial aspect. The control of fruit insects and diseases was also of prime importance.

The most effective agencies through which the specialists did their work were the farm bureau and county agent, with whom the specialist worked in close cooperation wherever these agencies existed. In unorganized counties the specialists necessarily worked with individuals or local agricultural organizations.

The best method of bringing about the adoption of approved practices was through series of demonstrations covering the season and concluding with an interpretation of the results in dollars and cents. In one State the crop from apple trees treated in a spraying and pruning demonstration was worth many times that from the companion untreated trees. In New Jersey it was shown that by special care in growing and handling the plants a large portion of the early tomato crop could be ripened very early when prices are highest.

The results of the year's work can be given only approximately. There were over a thousand pruning and spraying demonstrations attended by perhaps 15,000 or more people. In one Indiana county alone 350 farmers sprayed their fruit trees as a cumulative result of spraying demonstrations during the past few years. In 77 localities in Oregon the fruit and vegetable interests of 17,383 acres were influenced beneficially by demonstration work. In the Hood River Valley of that State proper methods of pruning were applied on 1,200 acres of apple orchards as a result of instructions given at one pruning school.

FORESTRY.

The extension work in forestry was everywhere seriously interrupted by the war. Nevertheless, war conditions prepared the way for doing the work more efficiently than had hitherto been possible. The growing value of farm timbers, such as black walnut, white ash, the oaks, hickories, white pine, and various other species, was brought out by the war as never before.

Work in forestry was conducted in New Hampshire, New York, and Michigan. During the past year the wood fuel campaign was the chief interest pursued along forestry lines in these States and

in several others where no money was allotted for the purpose. At the outbreak of the war it was evident that the country would suffer from a serious coal shortage and that anything that could be done to increase the production and use of substitutes such as wood would relieve coal for essential war purposes. Cooperating with the Federal fuel administrators of the various States, the Department of Agriculture organized this campaign in such a way as to use the extension forces in the States as far as possible. In New Hampshire especially the county agents took an active interest in bringing before the farmers the opportunity which the fuel emergency gave them to market their poor-grade wood at exceptionally high prices. Although labor was very scarce and high priced, the needs of the State for wood were fairly well taken care of. In New York the professor of forestry at the college of agriculture and the county-agent leader were members of the State wood fuel committee appointed by the Fuel Administration, and the extension specialist in forestry spent a large part of his time in organizing this work, addressing farmers' meetings, and visiting individual owners.

It has been estimated that altogether the wood fuel campaign throughout the eastern part of the country increased the production of wood by at least 10 per cent, and in this work the various extension services were of material assistance.

The demands of the War Department for walnut for gunstocks and airplane propellers were so great that for a time a serious shortage of this lumber was threatened, and in many States the county gave the Government material assistance in locating this and other lumbers for war purposes. County agents also brought the situation to the attention of walnut owners and reported these owners to the department so that the manufacturers were enabled to secure a considerably increased supply.

MARKETING.

The extension work dealing with the methods employed in the marketing of farm products were in charge of field agents located in the different States and employed cooperatively by the Department of Agriculture and the State agricultural colleges. The greater part of this work was in the nature of disseminating information relative to approved methods and practices for the distribution of farm products, and conducting demonstrations to aid producers who desired to organize for collective buying and selling.

Exhibits illustrating various phases of marketing were made at a number of State fairs. At the Utah State Fair at Salt Lake City a display of containers for farm products was made and at the Minnesota State Fair at St. Paul there were exhibits showing the equip-

ment for model offices for a cooperative creamery and a cooperatively operated elevator.

Demonstrations were conducted with eight live-stock shipping associations in Iowa in which the methods used in marking, weighing, loading, and shipping live stock were taught. Information was also given as to methods for preparing stock cars for extremes of temperature and for utilizing cars so as to get the best results from loading.

Forty-five potato-shipping associations were formed in Michigan. These were federated so as to get the benefit of uniform practices as to grading and shipping. The Colorado Bean Growers' Association was formed with 8 county associations and 231 members. The Inter-mountain Honey Producers' Association, with members in 9 States, was completed. Fifteen creameries in Iowa were federated to produce a standard output, engage in collective purchasing, and market in carlot quantities. Onion growers representing 250 acres were organized to purchase seeds and sacks collectively. Six cooperative elevators and 9 milk-marketing associations were formed.

ANIMAL DISEASES.

In the Central States the live-stock diseases requiring most attention were hog cholera, tuberculosis, and contagious abortion; and in the Western States blackleg, scab, anthrax, and hemorrhagic septicaemia.

This work was confined principally to educational features, covering such points as sanitation and the application of bactericides, the methods of constructing dipping tanks, the handling of animals in the dipping process, and in the manipulation of instruments used in making inoculations where the laws of the State permit the owner to administer treatment.

The specialist in charge of animal-disease prevention held meetings on farms where instructions were given in the best methods of ventilation, the necessity for sunlight, clean feeding places, and the importance of a pure water supply. In Iowa the specialist conducted a tour of farmers to make observations of the water supply for hogs and other animals. On this trip he called particular attention to the eggs of parasitic insects and conditions of the water which would be conducive to diseases. He also gave instruction in the extension schools, where he displayed preserved parts of the animal showing diseased tissues and some of the most common forms of internal parasites. Plans and specifications for the construction of dipping tanks to be used in the treatment of sheep have been furnished farmers and county agents, and methods used in the preparation of the dips and in the handling of sheep during the dipping process have been taught by demonstration methods. Virus for the prevention of

blackleg in several instances was secured from the United States Department of Agriculture. The method of administering has been taught the farmer who desired to make the treatment himself.

Not only has the cooperation of the county agent been sought in this work, but the specialists have endeavored to cultivate the acquaintance of local veterinarians, and to secure their assistance in giving general information on preventive treatment, and especially in leading farmers to the adoption of more sanitary conditions about stables, barns, feeding and watering places. Much of the information secured by the county agents and specialists concerning outbreaks of diseases has been communicated either to the State or Federal regulatory forces, that control measures might be applied immediately. The separation of educational methods from the police power of the State and the Federal Government has made it very difficult to determine the degree of results of live-stock disease prevention. The proverbial ounce of prevention that is worth a pound of cure might apply to this work, for its methods have been principally to prevent more than to cure, and the success of it must be evident from the fact that it has contributed to the placing of more hogs on the market, the shipping of more milk, and the sale of larger quantities of wool and beef cattle than heretofore.

PLANT PATHOLOGY.

The saving of crops being emphasized, it became very clear that the problem of the plant pathologist was to prevent the loss of crops from the attacks of diseases. The prevention of smut on the cereal crops was the most important phase of this work. After the plant pathologist determined the general location of infected areas, he assisted in making demonstrations in methods of seed treatment. These demonstrations were usually conducted on barn floors, where farmers could be taught the method of applying formaldehyde and skillful manipulation in the proper mixing of this fungicide with the grain. Instruction was also given as to the treatment of grain drills, fanning mills, grain bags, and other material with which seed grain may come in contact. The dissemination of this instruction within the counties was usually in charge of the county agent.

The attack on cereals by rusts was combated by making campaigns for the eradication of the common barberry, which is a host for rust spores and from which they are blown to adjacent fields of cereals. In many instances this apparently harmless shrub was located and removed by the farmer at the suggestion of the county agent or plant pathologist.

In Massachusetts, Minnesota, Oregon, Pennsylvania, and Wisconsin instruction and demonstrations have been given in the control

of potato blight, wilt, and other diseases peculiar to this plant. Demonstrations have also been made in the treatment of seed potatoes to prevent scab.

In the truck-growing sections control measures for the prevention of diseases of tomatoes, cabbage, onions, and celery have been demonstrated.

In counties having agents the schedule for field demonstrations and meetings were made by him. In a few unorganized counties small associations of growers and various other agricultural organizations took the initiative to secure services of the plant pathologist. It was not found necessary to use very many check plats to convince those who needed concrete evidence of the efficacy of control measures.

In New York the specialist in plant pathology gave particular attention to the control of diseases of potatoes, fruits, and beans. Ninety-six voluntary reporters on disease conditions worked under the direction of the specialist. They sent information to him and made it possible to employ prompt measures for the control of serious outbreaks. In four of the potato counties, three field specialists working among growers gave 50 spraying demonstrations, organized community spraying, and made 800 farm calls.

In the same State the control of fruit diseases was organized and conducted in the same manner; and the control of onion smut was so successful that the value of the increased yield of onions in one field was equal to the total amount of the salary and expenses of the local specialist for one year. From the formaldehyde treatment for onion smut a general increase of 53 per cent in the yield was obtained.

In the cabbage-growing districts of Wisconsin the growing of a disease-resistant variety of cabbage resulted in the production of 100,000 pounds of seed in 1918.

The treatment for the prevention of orchard diseases was given in cooperation with those in charge of the pomological features of the horticultural projects.

The increase of acreage in cereals and others crops alone do not prove the success of these measures, but the remarkable yields do signify that there was a general adoption of the use of these preventive measures and that they were successful.

ENTOMOLOGY.

Extension work in entomology was carried on during the year in 23 of the Northern and Western States, a specialist having been chosen by the extension director after consultation with the entomologist of the agricultural college to devote his full time to this work.

In North Dakota and Kansas well organized grasshopper campaigns were included in the regular plan of work of the county agents. In many of the counties the material used in the campaign was purchased by the county and sold to the farmers at cost, while in other counties the material was purchased by the county and given to the farmers on request, a committee of the farm bureau allotting the necessary amount of poison after going over the statement of acres to be treated and crops grown. In these counties the expense of the work was charged to the general taxation of the county. If the farmers failed to treat their land, the work was done by the State officials and the farmer was charged for the labor. In most of the counties local dealers were advised of the amount of poison and other materials that would be used in the campaign and the farmers purchased their own supplies. In Kansas and North Dakota 111,500 pounds of arsenic, 1,209 tons of bran, 1,383 cases of fruit, and 750 barrels of molasses were used in preparing the poison-bran bait. The material in all cost over \$100,000. The land treated amounted to 1,043,900 acres, and crops at an estimated value of \$8,300,000 were saved by the campaign. In Oregon and Washington it is estimated that the grasshopper and cricket campaigns saved crops to the amount of \$1,640,000, making a total saving in four States of \$9,940,000.

In one State where the work is well organized one or two major lines of work have been chosen and the entomological work is being closely associated with crop or live-stock production and included in the regular program of work of the county agents. In New York an entomological and a plant pathological specialist have been placed in each of the several important deciduous-fruit-producing counties, where the work is constantly before the growers, and entomological practices are becoming so general that they will soon be recognized to be as necessary as pruning and cultivation.

The work in apiculture is on a very satisfactory basis, this work being of so specialized a nature that it is impossible to make it secondary to any other line of work. Much of the work started under the food-production act as a purely emergency measure was during the year placed upon a definite basis, the States paying half the salary and expenses of the specialist and the Federal Bureau of Entomology paying the other half.

In six States where such work is under way, the beekeepers have been or are rapidly being organized into strong beekeepers' associations, the principles of cooperative buying and selling are rapidly being recognized, and modern practices of winter protection and good management of the bees are being adopted. Many beekeepers who before taking up the demonstrations with the beekeeping spe-

cialists had been merely paying expenses are now taking off maximum honey crops, cases being on record where the crop has been increased 300 to 400 per cent.

RODENT-PEST CONTROL.

Eradication of rodents such as the pocket gopher and ground squirrel has been undertaken in North Dakota since 1915. The destruction of crops there had been so great that the effectiveness of this work has won the confidence even of those who in the beginning were unwilling to accept the method.

A plan for the purchase of strychnine by county officials and its distribution to townships was advised. The county agent and the extension specialist in charge of rodent-control work cooperated in planning and conducting campaigns, and the county commissioners furnished all necessary funds for the purchase of poison bait. The specialist taught the county agent and the township officials at a central point how to prepare the bait, which was distributed to the farmers from a central point. They were also instructed by demonstration in the proper method of distributing the bait. Records were kept of the number of animals killed and a conservative estimate made as to the savings in crops. This information was sent to county agents who in turn forwarded it to the institution for compiling.

AGRICULTURAL ENGINEERING.

Ten States conducted work in agricultural engineering, drainage being given more attention perhaps than all the other features combined. The less important problems are farm buildings, the operation and adjustment of farm machinery, the construction of septic tanks, the planning and installing of water-supply systems, and the adoption of pump irrigation.

There are two distinct phases of the drainage extension work. The first is the giving of advice and assistance in locating drainage districts and planning the main line of ditches. In this work the extension engineer has cooperated with groups of farmers, county and State engineers in looking over the territory to be most benefited by the work. In Wisconsin 39 drainage districts were laid out. The second phase is planning and making a demonstration of a farm-drainage system to serve as an example to others in the immediate neighborhood.

On the areas where systems were put in in 1917, field meetings were called in 1918 to discuss the plan and to observe the results at the close of the harvest season. In Nebraska, meadows that had been inundated from seepage water or were unproductive because of a high-water table were made to double their yield, and in one case

a wild-grass meadow which had yielded nothing during the rainy seasons was brought to average the yield of dry seasons. The natural bed of many small streams was straightened to prevent washing.

In Iowa a few systems of terracing were constructed to prevent erosion. The extension division of Iowa furnished 604 communities with plans for farm buildings, such as grain and dairy barns, poultry houses, hog houses, and silos.

The importance of sanitary buildings and the remodeling of old ones in the construction of which concrete enters very largely were emphasized. Light, ventilation, and water supply received attention.

In Iowa the engineering specialist, who cooperates very closely with the county agents, has furnished to each of 46 agents stock blue prints of standard types of various farm buildings. These have been bound by the farm bureaus and may be examined in the county agent's office by those considering remodeling or building anew. He has also published a bulletin in which these buildings are described somewhat in detail. Any person receiving this bulletin can secure information as to the details of the plan, can observe the elevations on blue prints on file in the county agent's office, and may secure the ready-made blue prints from the extension engineer at the actual cost of making. The specialist's filing and follow-up methods are such that he can determine whether or not the information secured has led up to the actual construction of the buildings.

In Indiana the cooperation of the specialist with the county agents and the manufacturers of silos has resulted in the construction of about 8,000 silos.

In the demonstrations of the operation of farm machinery the operation and care of tractors was most important. Tractor schools of from two to four days were conducted, at which the manufacturers loaned machines and in some instances an operator who was obliged to confine himself entirely to the mechanical operation of his own tractor. The farmers were permitted some choice as to the machine they desired to operate. This gave them the opportunity to select the make of machine they owned. The extension engineer gave some instruction to groups in the interpretation of the book of instructions accompanying the tractor.

The work on the construction of septic tanks and water supply for dwellings received less attention than it might have received had not the production of food been so urgent, yet many septic tanks and water systems for the farm home were installed. In Michigan the extension engineer found it best to secure the cooperation of the local plumber in the installing even of a demonstration water system. His interest in the installation of such systems was not only aroused but it gave the extension engineer an opportunity to teach him the

most practical system. The plumber could then install such systems in other homes.

Wisconsin is the only State having a land-clearing project. The need for this work was brought about by persons entering the cut-over timber lands in the northern part of the State. Soil in this region is well adapted to the growing of potatoes and clovers. Because clover grows so spontaneously and luxuriantly, dairying as a feature of general farming has shown great possibilities of development. The slow and expensive process of clearing this land made apparent the necessity for a greater efficiency in land-clearing tools and machinery. Individual purchasing of explosives also increased the expense greatly.

Prior to this year land-clearing demonstrations were made in cooperation with the manufacturers of land-clearing machinery, the railroads of northern Michigan, and the Michigan Agricultural College. It was not so organized that the county agents could be of much assistance other than to announce the meetings and the names of places at which demonstrations would be given. This plan was found to be less effective than the present one. During 1917-18 the demonstrations were made for individuals by the college extension force of land-clearing specialists, who conducted them principally to teach the owners how to handle effectively land-clearing machinery and how to use explosives carrying the percentage of dynamite necessary to secure desired results. It was shown that a 20 per cent dynamite at 17 cents a pound gave better results in the lifting of the stump from the ground than did 40 per cent dynamite at 21 cents a pound. The latter shattered the stump instead of lifting it.

The demonstrators in the use of tools and machinery secured the participation of persons attending the demonstration, and cultivated their power of inventiveness to some degree by showing them ways in which tools and machinery could be used to greatest advantage, especially the use of the take-up.

As a result of this work 18 demonstrations were held, which 14,000 people attended. Of the total sales of about 1,000,000 pounds of dynamite, one-third was purchased cooperatively. The hardware stores have placed in stock standard land-clearing tools recommended by the extension division.

EXTENSION SCHOOLS.

Extension schools, or short courses as they are called in a few States, have been very generally changed to cover a period of from three to five days, four days prevailing. Lectures and demonstrations are given on such agricultural subjects as soil fertility, crops, dairying, and animal husbandry, and on home economics subjects

such as food conservation, methods of cooking, the remodeling of clothing, and the care of children.

The severe weather of 1917-18 caused the canceling of many extension schools, and in many cases it lessened the attendance to a very marked degree. In 10 of the States 665 schools were held, the attendance in five States being approximately 70,000. The number of one-day meetings held in the fields, barns, and elsewhere detracted in some degree from the attendance at extension schools. In one State there were also held 43 one-day meetings with an attendance of 3,323, and 208 special meetings with an attendance of 18,666.

The subjects dealt with in the extension schools are presented in a series, and are of a less popular nature than those presented at single field meetings. In many States the program of subjects for an extension school has been based upon the program of work of the county agent or upon the needs of the community where the school is conducted. Such a course served to bring together for common discussion the results of the past year's work. This plan has been helpful in completing the cycle of work of the county agent.

In Ohio the extension school is known by the name of the major subject taught; for example, in live-stock regions it is known as the animal-husbandry school; in dairy districts, as the dairy school; in fruit-growing regions, as the horticultural school. Soils and crops in any of these schools are discussed from the standpoint of their relation to the main subject.

In a number of the Western States the extension schools have had special days, as a dairy day, a live-stock day, a poultry day. This was necessary on account of the variety of interests represented and distances traveled by those attending the school.

County agents have taken an active part in the extension schools, some as instructors and others in doing whatever might be done to facilitate the work of the instructors by making them acquainted with individuals and the particular agricultural conditions and problems of the community.

FARMERS' INSTITUTES IN THE UNITED STATES.

By J. M. STEDMAN, *Farmers' Institute Specialist.*

During the fiscal year ended June 30, 1918, farmers' institutes were officially in charge of the extension division of the agricultural college in 33 States, while in the remaining 15 States, they were still in charge of the State government itself. Two States transferred during the year their farmers' institute work to the agricultural college.

Farmers' institute work appears to be a permanent feature in its agricultural program in the United States, and performs a function which, while now more restricted than formerly, has not been superseded, but only supplemented by other forms of extension activity. The number of sessions of farmers' institutes held and the number of farmers in attendance at these meetings remains practically the same as at the height of farmers' institute activity just prior to the passage of the Smith-Lever Cooperative Extension Act. Furthermore, in some States many meetings are held under the auspices of the extension division of the agricultural colleges, which, resemble farmers' institutes, but are not so reported and are designated by other names.

GENERAL STATISTICS OF FARMERS' INSTITUTES.

Of the 15 States directly in official charge of farmers' institutes, 2 (Alabama and Virginia), have not reported, and 1 (New Hampshire), did not hold institutes. The 12 States submitting data held a total of 2,370 farmer's institutes, lasting 2,858 days, embracing 4,806 sessions, with an attendance of 863,624. These States employed 815 lecturers, of which number 146 were from the agricultural colleges and experiment stations. The total amount of State appropriations for farmers' institute work was \$80,430.96, while funds from other sources were used to the amount of \$41,978.36.

Of the 33 States in which farmers' institutes were officially in charge of the extension division of the agricultural colleges, 7 (Kansas, Kentucky, Michigan, Minnesota, New York, Oklahoma and Oregon), have not reported and 7 (Arizona, Arkansas, Mississippi, Nebraska, New Mexico, North Dakota, and South Carolina), did not hold institutes. The 19 States reporting (including Missouri, where

the extension division of the agricultural college also held farmers' institutes, although they are officially in charge of the State government) as having conducted farmers' institutes, held in all 4,571 institutes lasting 4,326 days, with a total of 9,640 sessions, at which 1,053,082 people were in attendance. The extension divisions employed 1,187 lecturers in the farmers' institute work, of which number 796 were not on the extension staff. State funds to the amount of \$95,032.28 and other funds aggregating \$34,384.49 were used in conducting institutes.

The entire farmers' institute work in the United States during 1918, as compiled from 31 States reporting as holding farmers' institutes, consisted of 6,941 institutes, which lasted 7,184 days, comprised 14,446 sessions, had an attendance of 1,916,706, employed 2,002 lecturers, and cost \$260,826.09, which was divided between State appropriations of \$184,463.24 and other funds contributed to the amount of \$76,362.85.

More detailed information respecting the farmers' institute work in each State may be obtained from the tables accompanying this report.

THE DIVISION OF FARMERS' INSTITUTES.

Working along the same lines as heretofore, this division of the States Relations Service continued to aid farmers' institute workers, as well as county agents and other extension teachers throughout the entire country. Three new lectures—Nos. 31, Renovating the Neglected Apple Orchard; 32, Growing and Handling Irish Potatoes; and 33, The City and Suburban Vegetable Garden—were published during the year, each accompanied by 50 lantern slides. These lectures were used not only by farmers' institute lecturers, but also by county agricultural agents, from whom the demand still increases. They are also used by home-demonstration agents, club leaders, teachers of agriculture in high schools, extension teachers in agricultural colleges, grange lecturers, and other persons who desire aid in presenting their subject before audiences of farmers.

During the year a total of 604 lectures, each accompanied by a set of 50 lantern slides, were loaned to that number of extension workers, or a total of 30,200 slides, which is more than in any previous year.

STATISTICS.

Farmers' institutes conducted by the extension department of the agricultural colleges, year ending June 30, 1918.

State.	Number of institutes.	Total number of days of institutes.	Total number of sessions.	Total attendance.	Number of lecturers.			Amount of State appropriation used for institutes.	Other funds used.
					From extension staff.	From outside sources.	Total number of lecturers.		
California.....	180	185	195	12,560	3	12	15	\$3,000.00	.....
Colorado.....	30	45	105	23,480	20	15	35	600.00	\$300.00
Connecticut.....	9	9	17	588	18	7	25	47.81	.....
Florida.....	568	205	611	47,891	80	177	257	5,000.00	.....
Georgia.....	104	37	64	14,294	14	8	22	2,500.00	.....
Idaho.....	62	79	160	10,530	17	28	45	2,885.22	.....
Indiana.....	506	613	1,392	202,000	8	35	43	7,974.86	12,861.57
Louisiana.....	1,263	842	1,965	117,210	54	12	66	.....	1,000.00
Maryland.....	71	64	133	8,037	12	6	18	.....	.....
Missouri.....	268	258	319	19,749	10	340	350	4,255.84	1,200.00
Montana.....	443	.....	527	98,538	37	48	85	18,437.68	.....
Nevada.....	8	28	41	1,462	12	6	18	100.00	25.00
Ohio.....	414	820	1,993	326,892	6	42	48	6,144.09	18,997.92
South Dakota.....	180	254	383	26,618	6	3	9	10,070.13	.....
Tennessee.....	3	9	21	5,000	.....	.....	.....	1,200.00	.....
Utah.....	26	202	332	2,048	15	26	41	10,000.00	.....
Washington.....	21	48	90	11,000	5	8	13	306.00	.....
West Virginia.....	217	253	628	53,078	33	3	36	4,130.94	.....
Wisconsin.....	168	334	700	69,855	45	15	60	17,885.64	.....
Wyoming.....	30	32	64	2,164	6	5	11	494.07	.....
Total.....	4,571	4,326	9,640	1,053,082	401	796	1,178	95,032.28	34,384.49

No institute held in Arizona, Arkansas, Mississippi, Nebraska, New Mexico, North Dakota, and South Carolina; no report received from Kansas, Kentucky, Michigan, Minnesota, New York, Oklahoma, and Oregon.

Farmers' institutes conducted by the States, year ending June 30, 1918.

State.	Number of institutes.	Total number of days of institutes.	Total number of sessions.	Total attendance.	Number of lecturers.			Amount of State appropriations used for institutes.	Other funds used.
					From official State institute staff.	From agricultural college or experiment station staff.	Total number of lecturers.		
Delaware.....	31	37	92	11,600	4	5	9	\$1,027.69	.....
Illinois.....	252	364	969	148,303	102	31	133	29,600.00	\$20,813.18
Iowa.....	71	204	475	145,445	.....	.....	385	4,407.01	21,165.18
Maine.....	24	25	43	1,495	8	2	10	1,200.00	.....
Massachusetts.....	48	.....	78	7,403	39	11	50	1,817.25	.....
Missouri.....	502	502	583	152,884	4	4	8	10,000.60	.....
New Jersey.....	82	87	228	15,995	36	24	60	3,066.89	.....
North Carolina.....	95	98	145	32,217	10	40	50	4,000.00	.....
Pennsylvania.....	202	374	949	132,957	41	10	51	20,000.00	.....
Rhode Island.....	43	48	50	3,245	21	19	40	312.12	.....
Texas.....	1,020	1,098	1,170	210,505	16	.....	16	14,000.00	.....
Vermont.....	.....	21	24	1,575	3	.....	3	.....	.....
Total.....	2,370	2,858	4,806	863,624	284	146	815	89,430.96	41,978.36

No institute held in New Hampshire; no report received from Alabama and Virginia.

Expenditures for cooperative agricultural extension work for the year ended June 30, 1918, by items of expense.
EXPENDITURES FROM THE UNITED STATES APPROPRIATION OF MAY 8, 1914 (FEDERAL SMITH-LEVER).

State.	Amount of appropriation.	Salary.	Labor.	Publications.	Stationery and small printing.	Postage, telegraph, telephone, freight, and express.	Heat, light, water, and power.	Supplies.	Tools, machinery, and appliances.	Furniture and fixtures.	Scientific apparatus and specimens.	Live stock.	Traveling expenses.	Contingent expenses.	Unexpended balance.
Alabama.....	\$67,311.52	\$40,896.90	\$2,022.91	\$2,947.12	\$3,485.75	\$1,634.57	\$269.18	\$871.82	\$403.74	\$2,261.67	\$227.24		\$12,147.91	\$61.58	
Arizona.....	14,474.59	10,168.20	40.34	700.45	804.17	212.93		182.25	122.61	71.50			2,261.84	5.30	
Arkansas.....	54,475.75	35,041.08	1,300.58	2,550.09	4,212.60	903.18	197.78	476.33	23.94	1,644.78	7.46		7,992.75	4.28	
California.....	39,433.21	21,819.08	3,857.24	156.75	1,013.30	724.61		324.15	5.40	675.01	3.20		10,671.53	182.94	
Colorado.....	22,780.32	16,396.49	488.61	1,227.90	663.83	536.75	1.10	206.26	1.65	549.86	96.45		2,597.42		
Connecticut.....	13,725.86	10,332.52	59.88	3.20	22.24	44.23							3,263.79		
Delaware.....	7,849.19	7,849.19	122.46	468.53	366.85	317.38		397.82	160.00	843.55			2,881.23	5.00	
Florida.....	27,298.52	20,372.26	274.62	1,712.49	713.35	167.88		88.22	11.13	694.45			3,219.30		
Georgia.....	77,129.25	39,738.21	1,658.27	259.41	3,454.50	2,690.75	1,372.18	2,369.37	396.64	1,694.72	306.72		23,128.47		
Idaho.....	18,290.24	10,142.52	147.35	550.40	917.91	149.45		80.85	16.90	905.20	66.99		5,262.92	14.25	
Illinois.....	80,085.86	61,489.68	1,529.15	2,570.13	5,875.91	1,483.88	7.35	283.02	22.25	1,548.90	31.07		5,153.59	68.28	
Indiana.....	60,482.72	43,858.08	260.10	1,685.73	2,709.14	421.79		325.10	63.10	1,349.28	40.00		9,760.62		
Iowa.....	60,083.14	43,418.64	1,108.50		866.56	603.64		677.57	148.05	694.58	51.95		12,513.65		
Kansas.....	48,814.55	31,406.51	104.85	285.31	1,870.95	533.77		428.73	181.02	813.91	522.92		12,574.50	67.92	
Kentucky.....	66,235.13	36,288.70	790.26	1,410.59	1,192.54	1,007.72		783.59	325.50	2,777.99	24.87		16,880.08	11.30	\$4,705.82
Louisiana.....	47,605.63	34,111.84	103.98	1,751.10	263.10	424.66		1,690.01	1.00	1,224.03			8,022.16	13.23	
Maine.....	21,702.08	15,867.90	8.60	1,034.22	807.17	98.83	2.40	68.19	54.71	1,365.34	6.00		2,296.87	23.35	
Maryland.....	30,657.95	21,178.46	36.87	2,503.00	682.92	268.82	22.66	347.37	.60	208.46			5,130.80	27.35	
Massachusetts.....	17,815.33	13,752.02		787.41	49.58	68.41		12.39					3,145.52		
Michigan.....	58,086.33	47,553.12	2,086.56	1,071.88	1,465.65	466.95		367.16	9.45	524.95	138.08		4,373.38	14.78	
Minnesota.....	49,730.63	39,274.64	6.00	1,785.00	592.49	617.63		263.97	11.25	432.99			6,720.21	23.94	
Mississippi.....	61,544.93	39,998.04	807.46	3,075.00	2,707.07	1,635.13	.90	292.68	24.78	1,658.85			11,119.00	219.00	
Missouri.....	71,424.47	37,728.66	2,563.04	4,646.64	3,231.69	2,327.23		1,753.99	12.00	1,912.83	48.77		10,153.65	27.47	6,952.52
Montana.....	17,866.69	13,551.78	64.35	961.21	589.47	413.23		187.99	165.44	978.74	118.37		4,039.65		
Nebraska.....	38,575.71	24,261.87	370.67	243.74	5,222.79	664.94		618.11	94.52	3,048.23	9.08		8,022.16	2.75	
Nevada.....	12,221.18	6,634.16	203.75	108.99	429.01	374.33	2.50	333.97	152.01	768.79	17.40		3,027.24	9.10	
New Hampshire.....	15,689.22	10,320.54	402.47	883.70	677.92	220.19	1.22	246.99	19.31	315.53	1.55		2,583.29	12.95	
New Jersey.....	30,424.60	16,658.72	119.58	1,488.52	1,984.06	597.53	13.97	1,014.83	178.56	1,520.14	128.10		6,422.11	271.91	
New Mexico.....	19,101.88	9,024.73	244.42	948.69	988.11	898.45		257.36	154.60	1,130.76	118.25		5,199.31	4.30	
New York.....	72,513.92	49,425.09	1,340.92	991.02	3,559.62	1,415.96		866.78	150.21	1,734.61	611.25		12,257.92	10.00	107.39
North Carolina.....	71,207.07	45,953.38	322.17	3,310.00	2,306.84	1,678.16	1.68	977.32	143.77	2,195.61	31.50		14,066.06	149.99	
North Dakota.....	26,659.17	20,876.95	876.47	187.09		12.01		53.95					4,652.70		
Ohio.....	78,150.78	27,381.51	1,804.29	5,116.00	2,505.60	4,222.82		2,433.18	515.06	1,698.50	97.13		31,990.56	217.04	166.09
Oklahoma.....	53,348.51	43,655.60		3,331.02	2,283.04	189.85		277.44	133.15	1,235.40			3,245.12		1.89
Oregon.....	21,856.96	12,631.26	700.13	920.40	731.34	1,465.64	3.25	373.14	82.47	385.56	10.62		4,391.80	157.45	

Pennsylvania.....	108,383.33	74,079.45	1,942.35	8,259.30	2,686.87	466.41	.12	618.00	.....	195.97	872.81	67.49	.....	19,184.24	10.32	.....
Rhode Island.....	10,582.17	6,034.97	51.63	19.10	752.94	88.05	.....	120.30	22.55	26.21	1,405.10	12.26	.....	2,026.23	2.80	.....
South Carolina.....	51,843.0	33,628.00	36.57	1,581.55	2,371.82	1,394.03	.....	104.49	3.00	37.84	420.23	.....	.....	7,275.48	20.06	.....
South Dakota.....	26,445.03	13,061.83	4,538.38	72.94	905.42	336.18	.....	221.50	13.85	38.30	172.79	39.65	.....	7,009.41	14.75	.....
Tennessee.....	65,536.03	43,214.13	1,916.43	3,298.47	5,717.47	1,445.34	354.28	.....	160.00	.....	3,433.13	93.14	.....	6,878.95	24.66	.....
Texas.....	105,919.11	62,883.87	21.30	5,314.01	2,913.71	2,333.33	.....	790.69	174.12	29.20	3,352.23	85.24	.....	28,011.35	.....	.....
Utah.....	16,497.93	8,593.49	342.03	.....	363.36	334.18	.....	58.31	24.25	29.25	117.25	.....	.....	6,576.81	9.00	.....
Vermont.....	16,063.37	10,220.11	813.85	140.97	759.53	382.60	.....	296.22	4.02	85.78	112.88	6.33	.....	3,238.48	1.60	.....
Virginia.....	61,391.90	37,589.34	121.42	2,144.72	4,043.82	1,533.93	162.00	777.28	142.21	127.53	1,631.65	329.35	.....	12,736.43	49.22	.....
Washington.....	27,393.22	9,745.33	1,986.91	980.60	1,934.00	761.20	.....	617.20	.....	55.00	1,803.52	121.82	.....	9,381.90	.....	.....
West Virginia.....	42,191.27	34,748.57	.....	.....	2,615.27	5.42	.....	121.16	.....	102.20	72.39	.....	.....	4,523.26	.....	.....
Wisconsin.....	53,103.63	38,876.52	561.30	2,681.00	418.95	341.02	.....	634.15	14.55	128.31	123.91	25.96	.....	9,297.70	3.26	.....
Wyoming.....	13,331.20	6,503.36	89.55	694.89	410.90	638.36	.....	224.39	.....	91.06	240.22	53.59	.....	4,365.96	10.92	.....
Total 1915.....	2,080,000.00	1,343,293.39	38,250.63	76,910.28	85,141.13	39,627.12	2,412.57	24,514.89	1,484.19	4,732.47	51,659.81	3,556.80	.....	394,481.91	1,998.07	11,933.71
1917.....	1,580,000.00	1,118,078.61	21,983.32	43,927.84	34,509.96	20,041.81	1,338.98	18,077.66	1,152.85	6,872.01	25,053.91	3,732.85	\$70.35	278,867.24	1,346.99	4,945.62
1916.....	1,080,000.00	738,584.75	16,580.89	27,867.77	25,745.46	12,154.06	968.63	15,117.88	1,303.33	9,205.45	24,425.78	4,417.19	52.75	201,084.45	415.34	2,076.27
1915.....	480,000.00	322,631.44	6,511.70	8,241.16	9,270.05	5,539.85	145.85	6,193.34	304.56	1,739.53	15,131.40	2,431.69	162.34	96,402.41	228.41	3,065.27

Expenditures for cooperative agricultural extension work for the year ended June 30, 1918, by items of expense—Continued
EXPENDITURES FROM THE UNITED STATES APPROPRIATION OF MAY 8, 1914 (STATE SMITH-LEVER).

State.	Amount of appropriation.	Salary.	Labor.	Publications.	Stationery and small printing.	Postage, telegraph, phone, freight, and express.	Heat, light, water, and power.	Supplies.	Library.	Tools, machinery, and appliances.	Furniture and fixtures.	Scientific apparatus and specimens.	Traveling expenses.	Contingent expenses.	Unexpended balance.
Alabama.....	\$57,311.52	\$53,203.52	\$437.56	\$592.00	\$482.79	\$229.64	\$1.15	\$118.40	\$2.00	\$8.56	\$111.10	\$0.35	\$2,116.44	\$8.01	.....
Arizona.....	4,574.59	1,735.97	8.13	177.00	592.19	175.75	.....	244.82	.....	5.00	68.78	1.35	1,540.60	25.00	.....
Arkansas.....	44,475.75	33,734.75	748.35	2,397.48	4,899.93	588.59	218.68	102.44	138.79	181.89	1,235.95	125.32	90.63	12.95	.....
California.....	29,433.21	14,192.45	2,422.31	103.00	948.61	240.49	15.00	479.71	.....	78.75	105.00	26.97	10,820.92	45.95	.....
Colorado.....	12,780.32	6,310.54	337.86	138.95	496.48	398.69	6.60	34.83	1.00	.....	691.12	23.85	4,294.45	.....	.....
Connecticut.....	3,725.86	1,859.24	10.27	.....	48.00	20.35	.....	.....	.....	.....	.....	.....	1,788.00	.....	.....
Delaware.....	3,412.01	1,719.83	90.50	316.55	191.33	36.99	.....	192.97	24.44	72.81	567.01	.....	763.59	3.00	.....
Florida.....	17,298.52	14,356.19	16.87	.....	342.44	38.02	.....	46.61	33.09	3.75	.....	.....	1,866.54	28.00	.....
Georgia.....	67,129.25	43,802.58	124.48	6,595.49	170.74	1,091.51	1,851.45	313.88	.....	9.50	139.55	9.47	13,020.60	.....	.....
Idaho.....	8,290.24	7,676.54	143.55	300.00	1.00	.....	.....	50	.....	.....	.....	.....	167.95	.....	.....
Illinois.....	70,085.86	70,085.86	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Indiana.....	50,482.72	50,482.72	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Iowa.....	50,083.14	36,716.64	5,352.26	5,508.14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kansas.....	38,814.55	35,529.21	5.25	144.00	16.73	25.22	.....	133.60	.....	.....	254.60	.....	2,506.10	7.21	.....
Kentucky.....	56,235.13	49,846.95	357.40	.....	.....	220.00	725.00	.....	.....	.....	320.76	.....	2,698.73	.....	.....
Louisiana.....	37,605.63	22,382.18	52.63	5.00	159.90	237.34	4.80	482.31	.....	19.00	503.00	.....	13,755.47	4.00	.....
Maine.....	11,702.08	1,421.67	44.59	.....	395.86	252.31	7.40	26.51	1.75	12.65	31.82	.....	9,470.72	36.80	.....
Maryland.....	20,637.95	13,434.68	.....	.....	629.81	187.46	.....	72.73	20.00	53.75	1,260.94	90.55	4,908.03	.....	.....
Massachusetts.....	7,815.33	4,813.32	4.20	.....	.....	62.30	.....	4.78	.....	.....	.....	.....	2,930.73	.....	.....
Michigan.....	48,086.33	18,289.10	5,090.68	1,776.54	2,369.34	1,714.28	.....	670.83	18.10	251.28	1,175.62	67.20	16,609.58	53.28	.....
Minnesota.....	37,730.63	28,217.28	56.50	1,766.00	1,045.30	299.16	.....	212.40	1.25	106.18	407.90	.....	7,395.78	22.88	.....
Mississippi.....	51,544.93	46,615.54	469.37	902.93	29.73	66.97	.....	125.67	.....	.....	.....	.....	3,334.72	.....	.....
Missouri.....	61,424.47	28,416.13	6,975.82	354.48	2,460.43	1,060.18	41.58	911.14	16.98	192.25	1,264.24	230.52	12,431.60	116.60	6,952.52
Montana.....	7,866.69	7,866.69	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Nebraska.....	28,575.71	13,679.40	1,272.66	1,116.85	2,903.06	1,089.15	.....	358.26	94.60	174.63	3,493.75	35.64	4,357.31	40	.....
Nevada.....	2,221.18	1,203.19	37.35	.....	136.07	59.51	.....	79.40	.....	44.20	81.96	.....	575.85	3.65	.....
New Hampshire.....	5,689.22	3,228.08	252.65	13.75	156.07	269.41	.....	81.48	.....	8.80	61.32	.....	1,617.29	.....	.....
New Jersey.....	20,424.60	16,046.72	.....	1,098.75	155.20	371.09	.....	59.05	1.25	184.25	175.05	.....	1,823.24	.....	.....
New Mexico.....	9,101.88	3,065.55	75.85	455.00	683.41	91.23	.....	85.29	18.84	43.51	319.84	.....	4,263.36	.....	.....
New York.....	62,513.92	62,406.53	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	107.39
North Carolina.....	61,207.07	46,436.34	427.19	3,310.00	1,880.77	2,268.67	12.00	343.99	144.61	17.35	629.23	.....	5,478.88	258.04	.....
North Dakota.....	16,659.17	13,396.00	343.84	187.10	.....	21.50	.....	45.94	.....	.....	.....	.....	2,664.79	.....	.....
Ohio.....	68,150.78	51,623.21	300.78	1,875.45	1,143.68	543.09	.....	194.70	.....	.....	315.57	139.27	8,848.94	.....	166.09
Oklahoma.....	43,348.71	33,660.92	1,605.57	713.99	1,524.36	15.06	.....	415.16	.....	48.97	644.99	.....	4,717.60	.....	1.89
Oregon.....	11,856.96	10,155.41	2.10	.....	185.43	29.41	.....	343.60	.....	.....	122.24	33.20	985.57	.....	.....
Pennsylvania.....	98,383.33	38,638.82	767.63	.....	4,211.35	6,410.66	147.34	1,252.37	74.01	345.78	2,098.15	170.76	41,708.38	2,558.08	.....

Rhode Island.....	582.17	.....	8.47	41.27	100.29	328.31	.....	6.74	.....	1.15	86.42	.....	9.46	.....	.....
South Carolina.....	41,843.07	29,645.89	466.08	2,060.31	1,247.84	173.33	.....	98.97	67.22	56.29	1,401.46	.....	6,324.19	.....	.....
South Dakota.....	16,445.03	5,903.20	4,323.46	158.30	946.19	746.17	.....	214.53	20.95	128.25	337.06	.....	3,666.92	.....	.....
Tennessee.....	56,536.03	37,812.02	333.55	2,094.28	3,882.22	194.03	.....	778.73	1.96	1,446.38	433.54	.....	9,545.07	.....	.....
Texas.....	95,919.11	78,195.83	.....	3,998.78	.....	.....	.....	.....	.....	.....	.....	.....	13,724.50	.....	.....
Utah.....	6,497.96	2,614.65	360.45	.....	215.10	67.22	.....	228.39	.....	19.30	169.03	.....	2,776.82	47.00	.....
Vermont.....	6,063.37	6,046.77	2.30	.....	.....	4.36	.....	.....	.....	.....	.....	.....	9.94	.....	.....
Virginia.....	51,391.90	47,191.55	.....	.....	601.30	14.10	.....	.....	.....	.....	.....	.....	3,584.95	.....	.....
Washington.....	17,393.22	11,805.33	2,115.02	866.32	917.75	218.47	.....	51.02	.....	28.66	79.75	.....	1,310.90	.....	.....
West Virginia.....	32,191.27	18,059.14	.....	1,153.18	69.00	10.10	.....	25.80	.....	.....	.....	.....	12,874.05	.....	.....
Wisconsin.....	43,106.63	16,851.89	6,820.16	.....	265.10	955.12	.....	1,069.80	3.45	432.18	92.14	.....	16,359.80	79.89	.....
Wyoming.....	3,331.20	3,280.00	.....	.....	22.80	.14	.....	2.36	.....	.....	20.90	.....	.....	.....	.....
Total, 1918.....	1,600,000.00	1,147,256.62	42,263.69	40,130.89	36,527.87	20,826.08	3,052.65	9,909.71	684.29	3,975.07	18,699.79	1,254.59	259,998.19	3,486.85	11,933.71
1917.....	1,100,000.00	807,924.77	17,080.20	34,822.25	22,986.39	12,441.66	232.44	9,521.16	341.08	2,582.86	12,018.55	2,073.10	171,145.06	1,884.86	4,945.62
1916.....	600,000.00	444,338.61	10,632.39	15,198.34	13,757.31	5,397.94	223.28	7,718.43	208.40	2,210.66	8,339.73	999.38	87,038.02	1,331.24	2,076.27

Expenditures for cooperative agricultural extension work for the year ended June 30, 1918, by items of expense—Continued.

EXPENDITURES FROM THE UNITED STATES APPROPRIATION OF MAY 8, 1914 (FEDERAL AND STATE SMITH-LEVER.)

State.	Amount of appropriation.	Salary.	Labor.	Publications.	Stationery and small printing.	Postage, telegraph, phone, freight, and express.	Heat, light, water, and power.	Supplies.	Library.	Tools, machinery, and appliances.	Furniture and fixtures.	Scientific apparatus and specimens.	Live stock.	Traveling expenses.	Continuing expenses.	Unexpended balance.
Alabama.....	\$124,623.04	\$94,100.42	\$2,460.47	\$3,539.12	\$3,968.54	\$1,864.21	\$270.33	\$990.22	\$83.13	\$412.30	\$2,372.77	\$227.59	.....	\$14,264.35	\$69.59	.....
Arizona.....	19,149.18	11,904.17	48.47	877.45	1,336.36	388.68	.....	427.07	5.00	127.61	140.28	1.35	.....	3,802.44	30.30	.....
Arkansas.....	98,951.50	68,775.83	2,048.93	4,947.57	9,112.53	1,496.77	416.46	578.77	254.60	205.83	2,889.73	132.78	.....	8,083.38	17.23	.....
California.....	68,866.42	36,011.53	6,279.55	259.75	1,961.91	965.10	15.00	803.86	.....	84.15	789.01	30.17	.....	21,492.45	182.94	.....
Colorado.....	35,563.64	22,707.03	826.47	1,366.85	1,160.31	935.44	7.70	241.09	15.00	1.65	1,240.98	120.30	.....	6,891.87	45.95	.....
Connecticut.....	17,451.72	12,191.76	70.15	3.20	70.24	61.58	.....	.....	.....	.....	.....	.....	.....	5,051.79	.....	.....
Delaware.....	16,824.02	9,569.02	212.96	785.08	558.18	354.37	.....	590.79	24.44	232.81	843.55	.....	.....	3,644.82	8.00	.....
Florida.....	44,597.04	34,728.45	291.49	1,712.49	1,055.79	205.90	.....	134.83	77.91	14.88	1,261.46	.....	.....	5,085.81	28.00	.....
Georgia.....	144,258.50	83,590.85	1,782.75	6,851.90	3,623.24	3,782.26	3,223.63	2,633.25	10.00	406.14	1,834.22	316.19	.....	36,149.07	14.25	.....
Idaho.....	26,580.48	17,819.06	290.90	850.40	918.91	150.15	.....	81.35	35.50	16.90	905.20	66.99	.....	5,430.87	.....	.....
Illinois.....	150,171.72	131,573.54	1,529.15	2,570.13	5,875.91	1,483.88	7.35	283.02	25.65	22.25	1,545.90	31.07	.....	5,153.89	68.28	.....
Indiana.....	110,965.44	94,340.80	260.10	1,685.73	2,709.14	421.79	.....	325.10	9.78	63.10	1,349.28	40.00	.....	9,760.62	.....	.....
Iowa.....	110,166.28	80,135.28	6,460.76	5,508.14	866.56	603.64	.....	677.57	.....	148.05	694.58	51.95	.....	15,019.75	.....	.....
Kansas.....	87,629.10	66,935.72	110.10	429.31	1,887.68	558.99	.....	562.33	24.16	181.02	1,068.51	522.92	.....	15,273.23	75.13	.....
Kentucky.....	122,470.26	86,135.65	1,147.66	1,410.59	1,192.54	1,227.72	725.00	783.59	36.17	325.50	3,098.75	24.87	.....	16,939.28	11.30	\$9,411.61
Louisiana.....	85,211.26	56,494.02	156.61	1,756.10	1,423.00	662.00	4.80	2,172.32	50	20.00	1,727.03	.....	.....	21,777.63	17.25	.....
Maine.....	33,404.16	17,289.57	53.19	1,084.22	1,203.03	351.14	9.80	94.70	20.25	67.36	1,397.16	6.00	.....	11,767.59	60.15	.....
Maryland.....	51,315.90	34,613.14	36.87	2,503.00	1,312.73	456.28	22.66	420.10	24.64	54.35	1,469.40	90.55	.....	10,038.83	273.35	.....
Massachusetts.....	25,630.66	18,565.34	4.20	787.41	49.58	130.71	.....	17.17	.....	.....	.....	.....	.....	6,076.25	.....	.....
Michigan.....	106,172.66	65,842.22	7,177.24	2,848.42	3,835.44	2,181.23	.....	1,037.99	32.47	269.73	1,700.57	205.28	.....	20,582.96	68.06	.....
Minnesota.....	89,461.26	67,491.92	62.50	3,551.06	1,637.79	916.79	.....	476.37	3.76	117.43	840.89	.....	.....	14,315.99	46.82	.....
Mississippi.....	113,083.86	86,613.58	1,276.83	3,977.93	2,368.80	1,702.10	90	418.35	7.02	24.78	1,658.85	.....	.....	14,453.72	219.00	.....
Missouri.....	132,848.94	66,144.79	9,540.86	5,001.12	5,632.12	3,387.41	41.58	2,661.43	51.66	204.25	3,207.07	279.29	.....	22,585.25	144.07	13,905.04
Montana.....	25,733.38	21,418.47	64.35	961.21	8,125.87	413.23	.....	187.99	6.46	165.44	978.74	118.37	.....	829.65	.....	.....
Nebraska.....	67,151.42	37,941.27	1,643.33	1,360.59	8,125.87	1,754.09	.....	976.37	97.85	269.15	6,541.98	44.72	.....	8,333.07	3.15	.....
Nevada.....	14,442.36	7,837.35	241.10	108.99	565.08	433.84	2.50	413.37	159.93	196.21	850.75	17.40	.....	3,633.00	12.75	.....
New Hampshire.....	21,378.44	13,549.22	655.12	897.45	833.76	489.60	1.22	328.47	3.56	28.11	376.85	1.55	.....	4,200.58	12.95	.....
New Jersey.....	50,849.20	33,305.14	119.58	2,497.27	2,139.26	968.62	13.97	1,033.88	27.82	362.81	1,695.19	128.10	.....	8,245.35	271.91	.....
New Mexico.....	28,203.76	12,090.58	320.27	1,403.69	1,671.52	984.68	.....	342.65	156.74	198.11	1,450.60	118.25	.....	9,462.67	4.30	.....
New York.....	135,027.81	111,831.62	1,349.92	991.02	3,559.62	1,415.96	.....	866.78	23.15	150.21	1,754.61	611.25	.....	12,257.92	10.00	214.78
North Carolina.....	132,414.14	92,382.92	749.36	6,620.00	4,187.61	3,916.83	13.68	1,321.31	215.20	161.12	2,821.84	31.50	.....	19,544.94	408.03	.....
North Dakota.....	43,318.34	34,272.95	1,220.31	374.19	.....	33.51	.....	99.89	.....	.....	.....	.....	.....	7,317.49	.....	.....
Ohio.....	146,301.56	82,007.72	2,105.07	6,991.45	3,649.28	4,765.91	.....	2,627.88	.....	515.06	2,014.07	236.40	.....	40,834.50	217.01	332.18
Oklahoma.....	96,637.02	77,316.57	1,653.57	4,015.01	3,897.40	201.91	.....	632.60	6.00	182.12	870.39	.....	.....	7,622.72	.....	3.75
Oregon.....	33,713.92	22,786.67	702.23	920.40	916.77	1,495.05	3.25	716.74	3.90	82.47	507.80	43.82	.....	5,377.37	157.45	.....

Pennsylvania.....	206,766.66	112,718.27	2,709.98	8,259.30	6,898.22	6,877.07	147.46	1,870.37	74.01	541.75	2,970.96	238.25	60,892.62	2,568.40	.....
Rhode Island.....	11,164.34	6,054.97	60.13	60.37	853.23	416.36	.....	127.04	22.55	27.36	1,491.52	12.26	2,035.69	2.86	.....
South Carolina.....	93,686.14	68,273.89	502.65	3,611.86	3,619.66	1,537.36	7.40	203.46	70.22	94.13	1,821.69	118.04	13,599.67	196.11	.....
South Dakota.....	42,890.06	18,965.06	8,861.84	231.24	1,851.61	1,102.35	.....	436.03	34.80	166.55	509.85	39.65	10,676.33	14.75	.....
Tennessee.....	123,072.06	81,026.15	2,250.01	5,392.75	9,599.69	1,639.37	368.53	778.73	161.96	1,416.38	3,866.67	93.14	16,424.02	21.66	.....
Texas.....	201,838.22	141,059.70	21.30	9,312.79	2,913.71	2,363.36	.....	790.60	174.12	29.20	3,352.26	85.24	41,735.85	.....	.....
Utah.....	22,995.92	11,208.14	702.51	.....	578.46	451.40	.....	286.70	24.25	48.55	286.28	.....	9,353.63	56.00	.....
Vermont.....	22,126.74	16,266.88	816.15	140.97	759.53	386.96	.....	296.22	4.02	86.78	112.88	6.33	3,248.42	1.60	.....
Virginia.....	112,783.80	84,780.89	121.42	2,144.72	4,645.12	1,551.03	162.00	777.28	142.21	127.53	1,631.65	329.35	16,321.38	49.22	.....
Washington.....	44,786.44	21,550.66	4,101.93	1,846.92	2,851.75	980.41	.....	668.22	.....	83.66	1,883.27	126.82	10,692.80	.....	.....
West Virginia.....	74,382.54	52,807.71	.....	1,153.18	2,684.27	15.52	.....	146.96	.....	102.20	72.39	.....	17,400.31	.....	.....
Wisconsin.....	96,213.26	55,728.41	7,381.46	2,681.00	684.05	1,296.14	.....	1,703.95	18.00	560.49	216.05	203.06	25,657.50	83.15	.....
Wyoming.....	16,662.40	9,789.36	89.55	694.89	433.70	638.50	.....	226.75	.....	91.06	261.12	60.59	4,365.96	10.92	.....
Total, 1918.....	3,680,000.00	2,490,553.01	80,514.35	117,041.17	121,669.00	60,453.20	5,465.22	34,424.60	2,168.48	8,707.54	70,359.60	4,811.39	654,480.10	5,484.92	23,867.42
1917.....	2,680,000.00	1,926,003.38	39,063.52	78,750.09	57,496.35	32,483.47	1,571.42	27,598.82	1,493.93	9,454.87	37,072.46	5,805.95	\$70,354,50	012,303	231,859,891.21
1916.....	1,680,000.00	1,183,423.36	27,213.28	43,066.11	39,532.77	17,552.00	1,191.91	22,836.31	1,511.73	11,416.11	32,765.51	5,416.57	52,752,88	122,471	746,584,152.54
1915.....	480,000.00	322,631.44	6,511.70	8,241.16	9,270.05	5,539.35	146.85	6,193.34	304.56	1,739.53	15,131.40	2,431.69	162.34	96,402.41	228.415,065.27

Expenditures for cooperative agricultural extension work for the year ended June 30, 1918, by projects.
EXPENDITURES FROM THE UNITED STATES APPROPRIATION OF MAY 8, 1914 (FEDERAL SMITH-LEVER).

State.	Total.	Adminis- tration.	Printing and dis- tribution of publi- cations.	County agent.	Home economics.	Extension schools.	Boys' clubs.	Pig clubs.	Poultry clubs.	Animal hus- bandry.	Poultry.	Dairying.	Animal diseases.	Rodent pests.
Alabama.....	\$67,311.52	\$9,944.16	\$2,947.12	\$18,156.60	\$12,507.20	\$511.82	\$822.68	\$883.12	\$1,079.78	\$1,652.24		\$1,720.67	\$682.80	
Arizona.....	14,574.59	5,910.78	7,700.45	3,200.26	532.65	415.82	1,518.77			2,295.86				
Arkansas.....	54,475.75	14,767.45	2,550.09	18,274.11	7,397.98	1,653.27		773.97		1,798.14		975.51		
California.....	39,433.21	8,392.96	156.75	23,658.30	4,356.54		2,570.72			2,050.76				
Colorado.....	22,780.32	6,854.06	1,227.90	7,035.49	2,556.19		2,269.88							
Connecticut.....	13,725.86	1,961.49	3.20	5,475.22	46.30		1,953.47					1,501.27		
Delaware.....	13,412.01	3,497.40	408.53	5,391.30	2,548.83		1,505.95							
Florida.....	27,298.52	9,544.04	1,712.49	12,213.88	2,251.45		1,476.66						100.00	
Georgia.....	77,129.25	22,183.91	259.41	236.10	30,175.27	5,004.35	1,366.03	1,206.58	707.31	3,038.91		1,914.19	1,775.12	
Idaho.....	18,290.24	3,670.19	550.40	8,670.88	1,862.24	433.85	1,188.31			314.10		350.00		
Illinois.....	80,085.86	13,588.20	2,570.13	35,242.81	12,677.77									
Indiana.....	60,482.72	11,562.44	1,685.73	4,296.97	4,892.46	3,335.58	4,596.96			3,908.59	4,109.73	6,800.01		
Iowa.....	40,083.14	5,347.14		18,124.00	2,402.00		7,497.00			4,233.00	3,389.00	4,180.00	3,657.00	
Kansas.....	48,814.55	7,175.44	285.31	5,564.73	8,384.44	6,195.25	2,282.14	363.44	382.31	2,179.87	2,190.79	2,428.67	178.71	
Kentucky.....	66,235.13	9,200.14	1,410.59	25,735.66	10,451.94	567.70	875.53	897.72	662.88	759.57	1,282.73		392.91	
Louisiana.....	47,605.63	8,606.87	1,751.10	11,083.19	15,195.76					505.00	2,652.97	30.00		
Maine.....	21,702.08	5,571.41	1,084.22	8,263.84	3,116.69							2,314.41		
Maryland.....	30,657.95	10,132.97	2,503.00	9,842.00	7,767.13		194.10							
Massachusetts.....	17,815.33	1,050.00	787.41	4,100.00	1,874.95	140.82	2,557.11			1,352.79	2,564.83	1,656.77		
Michigan.....	58,086.33	3,422.50	1,071.88	23,707.03	5,863.38	2,516.35	5,391.69			1,982.48	2,987.76			
Minnesota.....	49,730.63	6,492.58	1,785.00	6,207.64	8,759.83	1,775.55	5,632.45			2,155.75	5,800.51	2,641.02		
Mississippi.....	61,544.93	5,204.06	3,075.00	13,032.11	16,787.90		4,273.04			2,439.06	1,994.47	3,409.53	3,598.97	
Missouri.....	71,424.47	9,173.85	4,646.64	10,713.49	10,540.14	2,701.81	5,754.15			2,145.37				
Montana.....	17,806.69	4,511.13	961.21	7,610.86	2,002.87		1,430.04			324.99				
Nebraska.....	38,575.71	14,624.29	243.74	3,843.64	6,609.85	2,237.81	407.25			369.30		240.90	600.00	
Nevada.....	12,221.18	3,464.16	108.99	2,254.38	2,638.22		2,153.46					1,001.97		
New Hampshire.....	15,689.22	2,321.18	883.70	7,712.81	2,572.04					218.28		1,574.19		
New Jersey.....	30,424.60	8,558.80	1,488.52	7,250.49	5,365.27		1,693.04					330.45		
New Mexico.....	19,101.88	7,288.99	948.69	3,383.38	3,358.48		3,293.58							
New York.....	72,513.92	5,960.90	991.02	14,619.07	15,479.19	6,464.60	2,930.72			1,133.42	3,037.00	350.00		
North Carolina.....	71,207.07	9,317.50	3,310.00	11,432.85	11,757.33		7,366.98			4,623.26		5,528.12	443.12	
North Dakota.....	26,659.17	2,119.02	5,116.00	15,421.92	3,811.13		1,706.28			1,032.21				
Ohio.....	78,150.78	19,141.61	5,116.00	18,771.20	12,315.62	690.00	3,521.29			2,328.40	1,973.76	3,992.87	830.32	\$864.25
Oklahoma.....	53,348.51	7,718.92	3,331.02	25,626.66	12,932.21		628.15	25.25	737.43					
Oregon.....	21,851.96	6,452.42	920.40	1,678.01	3,087.01		1,925.33			176.95	1,013.37			
Pennsylvania.....	108,383.33	6,938.67	8,259.30	59,480.58	24,810.19					78.10		283.68		
Rhode Island.....	10,582.17	6,162.65	19.10	300.60	9'6.64		1,713.01			21.87	415.95	714.47		
South Carolina.....	51,843.07	7,090.90	1,581.55	14,980.08	11,710.40		1,862.99			2,386.66	1,200.00	1,073.49		

South Dakota.....	26,445.03	4,842.51	72.94	4,104.38	1,739.92	1,919.54	2,471.00	.....	.....	.....	2,977.48	.....	847.79	2,531.76	.....
Tennessee.....	66,536.03	23,075.23	3,298.47	9,623.53	16,383.42	.....	.....	.....	.....	.....	2,920.84	.....	2,491.47	.....	.....
Texas.....	105,919.11	18,284.78	5,314.01	43,135.84	7,862.25	3,958.47	4,212.13	.....	.....	.....	2,469.23	.....	1,901.01	.....	.....
Utah.....	16,497.96	3,554.69	.....	11,619.09	599.11	.....	580.59	.....	.....	.....	.....	.....	.....	.....	.....
Vermont.....	16,063.37	4,643.05	140.97	3,304.19	2,532.61	110.27	2,046.46	.....	.....	.....	35.77	445.30	1,062.11	.....	.....
Virginia.....	61,391.90	15,918.26	2,144.72	.....	22,883.84	742.64	3,064.70	.....	1,837.25	.....	3,558.19	.....	.....	.....	.....
Washington.....	27,393.22	5,446.84	980.60	5,738.55	3,288.95	.....	5,657.00	.....	.....	.....	1,417.31	278.15	1,808.65	.....	.....
West Virginia.....	42,191.27	8,029.90	.....	18,487.55	2,221.03	440.00	5,756.38	.....	.....	.....	2,320.00	.....	1,478.77	.....	.....
Wisconsin.....	53,106.63	7,889.82	2,681.00	14,398.53	4,619.10	2,699.62	2,963.41	.....	.....	.....	4,275.15	.....	2,099.21	.....	.....
Wyoming.....	13,331.20	3,935.22	694.89	1,806.92	1,959.67	.....	2,965.91	.....	.....	.....	735.57	.....	1,233.02	.....	.....
Total, 1918.....	2,080,000.00	390,545.48	76,910.28	584,815.72	356,475.39	44,515.12	112,076.34	4,150.08	6,948.00	33,571.09	64,118.72	33,571.09	67,341.75	14,790.71	864.25
1917.....	1,580,000.00	249,738.00	43,881.48	453,417.17	261,229.14	69,425.12	105,290.22	3,622.87	4,930.89	21,577.05	55,395.62	21,577.05	49,536.76	11,807.83	.....
1916.....	1,180,000.00	177,213.30	27,867.77	289,708.77	174,753.22	63,125.80	63,189.11	3,201.37	3,153.22	18,014.85	27,104.06	18,014.85	38,365.08	9,593.93	.....
1915.....	480,000.00	86,276.39	8,241.16	128,083.33	69,890.05	33,821.65	32,944.29	326.82	362.07	5,373.76	8,314.02	5,373.76	16,269.72	3,930.67	.....

Expenditures for cooperative agricultural extension work for the year ended June 30, 1918, by projects—Continued.

EXPENDITURES FROM THE UNITED STATES APPROPRIATION OF MAY 8, 1914 (FEDERAL SMITH-LEVER)—Continued.

State.	Agronomy.	Horticulture.	Botany and plant pathology.	Entomology, apiculture, ornithology.	Forestry.	Agricultural engineering.	Farm management.	Rural organization.	Marketing.	Exhibits and fairs.	Miscellaneous specialists.	Balance.
Alabama.....	\$4,998.15	\$2,058.69				\$1,096.03	\$450.00		\$5,533.83		\$2,716.63	
Arkansas.....		2,472.57					297.94		3,362.66			
California.....							786.04					
Colorado.....							97.05					
Connecticut.....	1,979.32	3,233.43							1,867.24	\$2,182.08		
Georgia.....	300.00	950.27										
Idaho.....												
Illinois.....	4,583.03	4,242.78	\$2,356.38			2,209.56	2,574.15				13,432.80	
Indiana.....	254.00	5,998.00				3,435.00	1,902.50					
Iowa.....	4,518.69	2,194.35				4,370.59	1,054.00		513.00			
Kansas.....	1,495.75	727.40		\$2,040.55			79.27		7,068.79			\$4,705.82
Kentucky.....	1,728.50	4,757.64		75.00					182.96		1,036.64	
Louisiana.....												
Maine.....							1,351.51					
Maryland.....												
Massachusetts.....		863.88	362.15			218.75	474.62					
Michigan.....	3,800.90	3,173.33	1,419.37		\$737.60	1,743.88	767.40		667.23			
Minnesota.....	1,068.30	1,535.16	274.40	833.55			7,990.12	\$253.34				
Mississippi.....		4,245.67				2,149.78	2,420.01		5,277.28			
Missouri.....	4,238.78	1,487.48		563.77		164.66	948.44	1,891.64		498.76		6,952.52
Montana.....												
Nebraska.....	3,526.63	2,436.83		846.19		430.30	2,758.98		1,025.59			
New Hampshire.....					107.02		300.00					
New Jersey.....	1,748.68	2,197.68										
New Mexico.....												
New York.....	6,984.10	3,199.72	3,840.00	1,762.02	142.57	2,002.20	3,330.00		828.76			
North Carolina.....	8,776.94	1,716.92	281.21	895.45	214.22	99.96		800.00	180.00			107.39
North Dakota.....		521.67		78.38			882.22		4,643.21			
Ohio.....	5,043.29	1,724.86				1,358.27	1,177.20					166.09
Oklahoma.....	34.11											1.89
Oregon.....	1,673.91	2,943.91		278.81			300.00		692.69			
Pennsylvania.....		5,894.50	2,638.31									
Rhode Island.....	267.88											
South Carolina.....	1,961.00	2,612.63	4,517.11					833.34				
South Dakota.....	107.29	1,388.92		32.92								
Tennessee.....	5,162.59			253.00		1,276.73	2,164.77		1,786.44			

[illegible]

Expenditures for cooperative agricultural extension work for the year ended June 30, 1918, by projects—Continued.
EXPENDITURES FROM THE UNITED STATES APPROPRIATION OF MAY 8, 1914 (STATE SMITH-LEVER).

State.	Total.	Adminis- tration.	Printing and dis- tribution of publi- cations.	County agent.	Home economics.	Extension schools.	Boys' clubs.	Pig clubs.	Poultry clubs.	Animal hus- bandry.	Poultry.	Dairying.	Animal diseases.	Rodent pests.
Alabama.....	\$57,311.52	\$12.30	\$592.00	\$43,974.88	\$8,225.52	\$168.95	\$1,869.02	\$990.43	\$792.46	.....	.....	.....	.....	.....
Arizona.....	4,574.59	1,145.53	177.00	1,543.59	317.19	106.33	1,262.32	.....	.....	\$22.63	.....	.....	.....	.....
Arkansas.....	44,475.75	9,896.12	2,397.48	23,425.58	4,937.07	34.05	.....	178.67	.....	1,340.00	.....	\$40.00	.....	.....
California.....	29,433.21	4,619.57	103.00	19,104.08	2,722.04	.....	2,513.33	.....	.....	.....	.....	.....	.....	.....
Colorado.....	12,780.32	1,644.76	138.95	5,440.26	1,296.79	.....	701.28	.....	.....	745.02	.....	.....	.....	.....
Connecticut.....	3,725.86	1,261.58	.....	796.59	1,471.37	.....	196.32	.....	.....	.....	.....	.....	.....	.....
Delaware.....	3,412.01	626.40	316.55	1,008.56	516.83	.....	347.80	.....	.....	.....	\$595.87	.....	.....	.....
Florida.....	17,298.52	107.25	.....	125.65	14,314.63	.....	2,676.95	.....	.....	.....	74.04	.....	.....	.....
Georgia.....	67,129.25	5,152.13	6,595.49	45,014.29	6,594.32	.....	.....	.....	.....	150.00	.....	100.00	.....	.....
Idaho.....	8,290.24	675.83	300.00	5,744.04	406.67	70.15	293.55	.....	.....	.....	.....	.....	.....	.....
Illinois.....	70,085.86	.....	.....	70,085.86	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Indiana.....	50,482.72	.....	.....	50,482.72	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Iowa.....	50,083.14	23,129.00	5,508.14	19,428.20	9,393.03	.....	.....	.....	.....	792.97	.....	1,025.00	\$3,134.54	.....
Kansas.....	38,814.55	.....	144.00	18,077.31	2,674.16	2,878.67	8,704.50	33.94	256.50	.....	1,800.00	.....	884.20	.....
Kentucky.....	56,235.13	3,992.62	.....	23,689.25	15,008.76	.....	139.16	66.67	250.00	2,791.67	2,372.70	.....	.....	.....
Louisiana.....	37,605.63	718.57	5.00	9,265.65	.....	.....	10,450.12	.....	.....	.....	1,934.79	.....	.....	.....
Maine.....	11,702.08	501.64	.....	176.22	1,031.48	.....	3,076.80	.....	.....	1,737.14	2,200.22	1,164.16	.....	.....
Maryland.....	20,657.95	5,549.43	.....	2,790.55	700.04	.....	4,057.23	.....	.....	.....	.....	.....	.....	.....
Massachusetts.....	7,815.33	166.67	.....	15,740.04	6,645.23	2,986.19	6,928.37	.....	.....	1,622.55	682.51	.....	.....	.....
Michigan.....	48,086.33	3,520.61	1,776.54	20,427.84	2,857.44	750.78	470.69	.....	.....	.....	770.38	2,077.37	.....	.....
Minnesota.....	39,730.63	6,402.40	1,766.00	33,689.58	9,368.90	2,993.77	1,698.85	.....	.....	1,903.87	.....	.....	.....	.....
Mississippi.....	51,544.93	.....	902.93	32,144.40	5,778.74	334.50	2,216.32	.....	.....	895.13	458.54	832.24	1,315.74	.....
Missouri.....	61,424.47	3,462.74	354.48	7,866.69	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Montana.....	7,866.69	.....	.....	7,866.69	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Nevada.....	28,575.71	9,532.46	1,116.85	5,783.84	1,120.76	968.09	5,798.40	.....	.....	691.68	.....	691.48	.....	.....
New Hampshire.....	2,221.18	297.28	.....	355.03	.....	.....	824.25	.....	.....	.....	.....	.....	.....	.....
New Jersey.....	5,689.22	2,032.83	13.75	.....	569.71	.....	.....	.....	.....	.....	.....	.....	.....	.....
New Mexico.....	20,424.60	3,014.04	1,008.75	8,097.07	1,845.65	2,857.74	828.22	.....	.....	.....	1,807.01	1,052.61	1,703.01	.....
New York.....	9,101.88	1,476.80	455.00	.....	.....	.....	.....	.....	.....	.....	1,599.99	1,200.00	.....	.....
North Carolina.....	62,513.92	6,395.53	.....	28,899.98	.....	.....	895.44	.....	.....	.....	.....	.....	.....	.....
North Dakota.....	16,207.07	2,218.79	3,310.00	25,914.18	6,402.70	2,663.62	1,486.26	.....	.....	886.48	.....	.....	.....	.....
Ohio.....	16,659.17	2,855.05	187.10	6,529.81	3,486.31	.....	.....	.....	.....	.....	.....	.....	.....	.....
South Dakota.....	68,150.78	12,596.44	1,875.45	14,748.09	11,669.86	.....	4,906.13	.....	.....	2,584.65	2,533.28	1,200.00	600.00	\$367.54
Oklahoma.....	43,348.51	7,537.90	713.99	21,528.71	5,327.72	.....	3,955.56	684.92	1,214.78	.....	.....	.....	.....	.....
Oregon.....	11,856.96	.....	.....	440.00	1,022.10	.....	140.00	.....	.....	.....	.....	.....	.....	.....
Pennsylvania.....	98,383.33	7,088.53	.....	52,920.58	10,886.81	112.30	3,105.72	.....	.....	.....	.....	.....	.....	.....
Rhode Island.....	582.17	540.90	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
South Carolina.....	41,843.07	7,633.20	2,060.31	7,448.24	10,813.29	.....	1,558.46	.....	.....	118.79	436.41	4,742.55	.....	.....

[illegible]

Expenditures for cooperative agricultural extension work for the year ended June 30, 1918, by projects—Continued.

EXPENDITURES FROM THE UNITED STATES APPROPRIATION OF MAY 8, 1914 (STATE SMITH-LEVER).—Continued.

State.	Agronomy.	Horticulture.	Botany and plant pathology.	Entomology, apiculture, ornithology.	Forestry.	Agricultural engineering.	Farm management.	Rural organization.	Marketing.	Exhibits and fairs.	Miscellaneous specialists.	Balance.
Alabama.....							\$396.64		\$289.32			
Arkansas.....		\$666.67					146.78		1,413.33			
California.....							371.19					
Colorado.....							1,111.74		1,701.52			
Georgia.....	\$150.00		\$1,935.52			\$1,867.50						
Idaho.....	10,235.00	400.00										
Iowa.....							1,560.04					
Kansas.....												
Kentucky.....	2,137.09	2,112.50										
Louisiana.....	339.99											
Maryland.....	1,981.53	2,395.24	148.19			102.32		\$1,095.22				\$4,705.82
Massachusetts.....		41.67					12.50		46.67			
Michigan.....	2,727.12	1,454.73	1,012.60	\$425.74	\$453.78	577.47	747.43		795.42			
Minnesota.....	332.86	314.08	1,606.69				1,488.57	465.53				
Mississippi.....						987.03						
Missouri.....	2,592.03	813.05		830.63		590.94	422.12	1,301.77		\$128.58		6,952.52
Nebraska.....	40.95					2,808.81	22.39					
New Hampshire.....							584.51					
New Jersey.....	819.71	1,951.54					10.85					
New Mexico.....	1,098.05						2,266.64					107.39
New York.....	4,850.00	1,555.54	2,138.85	3,500.00	730.32	1,500.00	554.68		9,633.28	2,862.86		
North Carolina.....						288.38	547.09					
North Dakota.....		260.75		52.78		1,074.98	1,821.53					166.09
Ohio.....	8,274.28	4,100.00				2,208.32						1.89
Oklahoma.....	109.87											
Oregon.....	1,121.85	675.65		137.36								
Pennsylvania.....	3,620.06	692.80		3,460.70								
South Carolina.....	487.17	3,445.83		1,159.68						137.41		
South Dakota.....	1,067.77							2,373.60				
Tennessee.....	139.98			338.00				151.41	1,787.73			
Texas.....												
Utah.....			12,858.12					8,410.69				
									566.30			

[illegible]

Expenditures for cooperative agricultural extension work for the year ended June 30, 1918, by projects—Continued.

EXPENDITURES FROM THE UNITED STATES APPROPRIATION OF MAY 8, 1914 (FEDERAL AND STATE SMITH-LEVER).

State.	Total.	Adminis- tration.	Printing and dis- tribution of publi- cations.	County agent.	Home economics.	Extension schools.	Boys' clubs.	Pig clubs.	Poultry clubs.	Animal hus- bandry.	Poultry.	Dairying.	Animal diseases.	Rodent pests.
Alabama.....	\$124,623.04	\$9,956.46	\$3,539.12	\$62,131.48	\$20,732.72	\$680.77	\$2,691.70	\$1,873.55	\$1,872.24	\$1,652.24	.....	\$1,720.67	\$682.80	.....
Arizona.....	19,149.18	7,056.31	877.45	4,743.85	849.84	522.15	2,781.09	.....	.....	2,318.49	.....	.....	.....	.....
Arkansas.....	98,951.50	24,663.57	4,947.57	41,699.69	12,335.05	1,687.32	.....	952.64	.....	3,138.14	.....	1,015.51	.....	.....
California.....	68,866.42	13,012.53	259.75	42,762.38	7,078.58	.....	5,084.05	.....	.....	.....	.....	.....	.....	.....
Colorado.....	35,560.64	8,498.82	1,366.85	12,475.75	3,832.98	.....	2,971.16	.....	.....	2,795.78	.....	.....	.....	.....
Connecticut.....	17,451.72	3,223.07	3.20	6,271.81	1,517.67	.....	2,149.79	.....	.....	.....	.....	.....	.....	.....
Delaware.....	16,824.02	4,123.80	785.08	6,399.86	3,065.66	.....	1,853.75	.....	.....	.....	.....	.....	.....	.....
Florida.....	44,597.04	9,651.29	1,712.49	12,339.53	16,566.08	.....	4,153.61	.....	.....	.....	.....	.....	.....	.....
Georgia.....	144,238.50	27,336.04	6,854.90	45,250.39	36,769.59	5,004.35	1,366.03	.....	707.31	3,038.91	.....	1,914.19	1,775.12	.....
Idaho.....	26,580.48	4,346.02	850.40	14,414.92	2,268.91	504.00	1,481.86	.....	.....	464.10	.....	450.00	.....	.....
Illinois.....	150,171.72	13,588.20	2,570.13	105,328.67	12,677.77	.....	.....	.....	.....	.....	.....	.....	.....	.....
Indiana.....	100,965.44	11,562.44	1,685.73	54,779.69	4,892.46	3,335.58	4,596.96	.....	.....	3,908.59	.....	.....	.....	.....
Iowa.....	110,166.28	28,476.14	5,508.14	18,124.00	11,795.03	.....	7,497.00	.....	.....	5,025.97	.....	.....	.....	.....
Kansas.....	87,629.10	7,175.44	429.31	24,992.93	11,083.60	9,073.92	8,986.64	397.38	638.81	2,179.87	.....	.....	3,657.00	.....
Kentucky.....	122,470.26	13,192.76	1,410.59	43,812.97	25,460.70	567.70	1,014.69	964.39	912.88	3,551.24	.....	.....	1,277.11	.....
Louisiana.....	85,211.26	9,325.44	1,756.10	34,772.44	15,195.76	.....	10,450.12	.....	.....	505.00	.....	.....	.....	.....
Maine.....	33,404.16	6,073.05	1,084.22	17,529.49	3,116.69	.....	.....	.....	.....	.....	.....	.....	.....	.....
Maryland.....	51,315.90	15,682.40	2,503.00	10,018.22	8,798.61	.....	3,270.90	.....	.....	1,737.14	.....	.....	.....	.....
Massachusetts.....	25,630.66	1,216.67	787.41	6,890.55	2,574.99	.....	6,614.34	.....	.....	1,382.79	.....	.....	.....	.....
Michigan.....	106,172.66	6,943.11	2,848.42	39,447.07	12,508.61	5,502.54	12,320.06	.....	.....	3,605.03	.....	.....	.....	.....
Minnesota.....	89,461.26	12,894.98	3,551.00	26,635.48	11,617.27	2,526.33	6,103.14	.....	.....	.....	.....	.....	.....	.....
Mississippi.....	113,089.86	5,204.06	3,977.93	46,721.69	26,156.80	2,993.77	5,971.89	.....	.....	4,342.93	.....	.....	.....	.....
Missouri.....	132,848.94	12,636.59	5,001.12	42,857.89	16,318.88	3,036.31	7,970.47	.....	.....	3,040.50	.....	.....	4,914.71	.....
Montana.....	25,733.38	4,511.13	961.21	15,477.55	2,002.87	.....	1,430.04	.....	.....	1,060.98	.....	.....	.....	.....
Nebraska.....	67,151.42	24,156.75	1,360.59	9,627.48	7,730.61	3,205.90	6,205.65	.....	.....	.....	.....	.....	.....	.....
Nevada.....	14,442.36	3,761.44	108.99	2,609.41	3,382.84	.....	2,977.71	.....	.....	218.28	.....	.....	600.00	.....
New Hampshire.....	21,378.44	4,354.01	897.45	7,712.81	3,141.75	.....	.....	.....	.....	.....	.....	.....	.....	.....
New Jersey.....	50,849.20	11,572.84	2,497.27	15,347.56	7,210.92	.....	2,521.26	.....	.....	.....	.....	.....	.....	.....
New Mexico.....	28,203.76	8,765.79	1,403.69	3,383.38	3,358.48	2,837.74	3,293.58	.....	.....	.....	.....	.....	.....	.....
New York.....	135,027.84	12,356.43	991.02	43,519.05	15,479.19	7,964.60	2,930.72	.....	.....	8,133.42	.....	.....	1,703.01	.....
North Carolina.....	132,414.14	11,536.29	6,620.00	37,347.03	18,160.03	2,663.62	8,262.42	.....	.....	6,810.33	.....	.....	.....	.....
North Dakota.....	43,318.34	4,974.07	3,374.19	21,956.73	7,297.44	.....	3,192.54	.....	.....	1,948.69	.....	.....	443.12	.....
Ohio.....	146,301.56	31,738.05	6,991.45	33,519.29	23,985.48	690.00	8,427.42	.....	.....	4,913.05	.....	.....	.....	.....
Oklahoma.....	96,697.02	15,256.82	4,045.01	47,155.37	18,279.93	.....	4,583.71	.....	.....	.....	.....	.....	.....	.....
Oregon.....	33,713.92	13,540.95	920.40	2,118.01	4,109.11	.....	2,065.33	.....	.....	941.75	.....	.....	.....	.....
Pennsylvania.....	206,766.66	12,396.99	8,259.30	* 112,401.16	35,697.00	112.30	3,105.72	.....	.....	3,615.79	.....	.....	.....	.....
Rhode Island.....	11,164.31	6,703.55	60.37	300.60	966.64	.....	1,713.01	.....	.....	21.87	.....	.....	.....	.....
South Carolina.....	93,686.14	14,724.10	3,641.86	22,428.32	22,523.69	.....	3,421.45	.....	.....	2,505.45	.....	.....	.....	.....

South Dakota.....	42,800.06	12,686.87	231.24	4,104.38	1,739.92	8,877.48	2,471.00	.....	2,977.48	.....	847.79	2,948.42
Tennessee.....	123,072.06	32,179.56	5,392.75	29,393.26	36,840.03	2,917.34	.....	.....	.....	.....	3,191.47	.....
Texas.....	201,838.22	18,603.95	9,312.79	81,690.59	21,049.66	10,932.06	5,943.24	1,541.04	.....	.....	3,540.98	.....
Utah.....	22,995.92	4,084.73	.....	13,899.58	2,541.90	.....	1,436.10	.....	.....	.....	322.83	.....
Vermont.....	22,126.74	5,181.06	140.97	6,976.60	3,507.61	110.27	2,430.23	.....	35.77	585.30	1,210.46	.....
Virginia.....	112,783.80	22,471.98	2,144.72	36,236.80	25,760.81	742.64	3,064.70	1,837.25	3,892.71	.....	5,239.89	.....
Washington.....	44,786.44	10,039.39	1,846.92	9,598.76	4,795.04	.....	8,796.95	.....	1,739.75	414.69	2,322.68	.....
West Virginia.....	74,382.54	12,165.74	1,153.18	29,047.45	10,387.98	710.10	8,860.50	.....	4,365.64	.....	1,962.19	.....
Wisconsin.....	96,213.26	7,889.82	2,681.00	43,173.42	4,619.17	3,005.62	2,963.41	.....	5,875.15	.....	6,924.95	.....
Wyoming.....	16,662.40	7,266.42	694.89	1,806.92	1,959.67	.....	2,965.91	.....	735.57	.....	1,233.02	.....
Total, 1918.....	3,680,000.00	568,757.92	117,041.17	1,351,232.26	553,737.60	80,365.23	192,391.85	6,104.71	106,438.98	54,031.10	112,497.12	22,844.86
..... 1917.....	2,680,000.00	347,041.33	78,700.98	994,912.22	387,464.92	105,927.06	155,499.90	4,801.90	8,866.03	30,364.69	73,843.64	17,038.10
..... 1916.....	1,680,000.00	267,288.80	43,066.11	572,786.19	243,221.66	88,880.45	91,662.65	3,201.37	3,549.74	24,720.94	48,270.51	12,000.81

Expenditures for cooperative agricultural extension work for the year ended June 30, 1918, by projects—Continued.

EXPENDITURES FROM THE UNITED STATES APPROPRIATION OF MAY 8, 1914 (FEDERAL AND STATE SMITH-LEVER)—Continued.

State.	Agronomy.	Horticulture.	Botany and plant pathology.	Entomology, apiculture, ornithology.	Forestry.	Agricultural engineering.	Farm management.	Rural organization.	Marketing and fairs.	Miscellaneous specialists.	Balance.
Alabama.....	\$4,998.15	\$2,058.69				\$1,096.43	\$396.64		\$5,823.15	\$2,716.63	
Arkansas.....		3,139.24					596.78		4,775.99		
California.....							669.13				
Colorado.....							1,867.78		1,701.52		
Connecticut.....							97.05				
Georgia.....	1,979.32	3,233.43	\$1,905.52			1,867.50			1,867.24	\$2,182.08	
Idaho.....	450.00	1,350.27									
Illinois.....											
Indiana.....	4,583.03	4,242.78	2,356.38				2,374.15			13,432.80	
Iowa.....	10,489.00	5,998.00				2,209.56	1,902.50				
Kansas.....	4,518.69	2,194.35				3,435.00	1,054.00		513.00		
Kentucky.....	3,632.84	2,839.90				4,370.59	1,639.31				
Louisiana.....	2,068.49	4,757.64									
Maine.....											\$9,411.64
Marland.....	1,981.53	2,395.24	148.19				1,351.51			1,036.64	
Massachusetts.....		905.55	362.15			321.07		\$1,095.22			
Michigan.....	6,528.02	4,628.06	2,421.97			2,321.35	487.12		46.67		
Minnesota.....	1,401.16	1,849.24	1,881.09		\$1,191.38		1,514.83		1,462.65		
Mississippi.....		4,245.67				3,136.81	9,478.69	718.87			
Missouri.....	6,830.81	2,300.53				755.60	2,420.01		5,277.28		
Montana.....							1,370.56	3,193.41	627.34		13,905.04
Nebraska.....	3,567.58	2,436.83				3,239.11	2,781.37		1,025.59		
New Hampshire.....							884.51				
New Jersey.....	2,568.39	4,149.22									
New Mexico.....	1,098.05						10.85		828.76		
New York.....	11,834.10	4,755.26	5,978.85	5,262.02	142.57	3,502.20	5,596.64		180.00		214.78
North Carolina.....	8,776.94	1,716.92	281.21	895.45	944.54	388.34	564.68	800.00	14,276.49	2,862.86	
North Dakota.....		782.42		131.16			1,429.31				
Ohio.....	13,317.57	5,824.86				2,433.25	2,998.73				332.18
Oklahoma.....	143.98					2,268.32					3.78
Oregon.....	2,795.76	3,619.56		416.17			300.00				
Pennsylvania.....	3,620.06	6,587.30	2,638.31	3,460.70				2,373.60	692.69	137.41	
Rhode Island.....	267.88										
South Carolina.....	2,448.17	6,038.46	4,517.11	1,192.60				984.75	1,787.73		
South Dakota.....	1,175.06	1,388.92				1,276.73	2,164.77				

Tennessee.....	5,302.57		591.00	1,015.11		20,376.97	1,786.44		
Texas.....		19,673.23							
Utah.....	87.43			57.05			565.30		
Vermont.....		163.55				1,784.92			
Virginia.....	2,694.19	7,077.10		1,621.01					
Washington.....	3,829.23					1,403.03			
West Virginia.....	2,575.30	3,154.46							
Wisconsin.....	4,337.13	2,311.49		9,635.68		500.00			
Total, 1918.....	119,930.43	96,164.94	17,564.53	2,385.51	44,950.31	47,868.87	54,132.58	5,809.69	23,867.42
1917.....	83,102.63	63,956.57	14,987.30	7,762.90	34,151.75	48,425.33	27,919.00	5,295.07	9,891.26
1916.....	44,792.07	52,861.57	8,164.38	1,857.34	18,683.57	40,069.60	9,054.99	4,183.48	4,152.54

Sources of offset to Federal Smith-Lever funds for the year ending June 30, 1918.

State.	Total.	State.	County.	College.	Other.	Balance.
Alabama.....	\$57,311.52	\$39,056.46	\$18,255.06			
Arizona.....	4,574.59	4,574.59				
Arkansas.....	44,475.75	30,939.03	13,536.72			
California.....	29,433.21	29,433.21				
Colorado.....	12,780.32	12,780.32				
Connecticut.....	3,725.86	3,725.86				
Delaware.....	3,412.01	3,412.01				
Florida.....	17,298.52	17,298.52				
Georgia.....	67,129.25	67,129.25				
Idaho.....	8,290.24	8,290.24				
Illinois.....	70,085.86	27,999.92			\$42,085.94	
Indiana.....	50,482.72	50,482.72				
Iowa.....	50,083.14	50,083.14				
Kansas.....	38,814.55	38,814.55				
Kentucky.....	56,235.13	20,235.13	16,294.18	\$15,000.00		\$4,705.82
Louisiana.....	37,605.63	25,000.00	12,605.63			
Maine.....	11,702.08	11,702.08				
Maryland.....	20,657.95	20,657.95				
Massachusetts.....	7,815.33	7,815.33				
Michigan.....	48,086.33		12,060.87	36,025.46		
Minnesota.....	39,730.63	39,730.63				
Mississippi.....	51,544.93	10,000.00	41,544.93			
Missouri.....	61,424.47	27,955.88	11,642.24		14,873.83	6,952.52
Montana.....	7,866.69	7,866.69				
Nebraska.....	28,575.71	28,575.71				
Nevada.....	2,221.18	2,221.18				
New Hampshire.....	5,689.22	5,689.22				
New Jersey.....	20,424.60	20,424.60				
New Mexico.....	9,101.88	9,101.88				
New York.....	62,513.92	62,406.53				107.39
North Carolina.....	61,207.07	61,207.07				
North Dakota.....	16,659.17	16,659.17				
Ohio.....	68,150.78	67,984.69				166.09
Oklahoma.....	43,348.51	43,346.62				1.89
Oregon.....	11,856.96	11,856.96				
Pennsylvania.....	98,383.33	48,053.10	50,330.23			
Rhode Island.....	582.17	582.17				
South Carolina.....	41,843.07	41,843.07				
South Dakota.....	16,445.03	16,445.03				
Tennessee.....	56,536.03	38,000.00	15,837.18		2,698.85	
Texas.....	95,919.11	89,452.72	6,466.39			
Utah.....	6,497.96	6,497.96				
Vermont.....	6,063.37	6,063.37				
Virginia.....	51,391.90	43,364.40	8,027.50			
Washington.....	17,393.22	17,393.22				
West Virginia.....	32,191.27	23,715.00	8,476.27			
Wisconsin.....	43,106.63	43,106.63				
Wyoming.....	3,331.20	3,331.20				
Total, 1918.....	1,600,000.00	1,262,305.01	215,077.20	51,025.46	59,658.62	11,933.71
1917.....	1,100,000.00	893,058.99	94,556.74	59,055.32	48,383.33	4,945.62
1916.....	600,000.00	470,649.42	69,226.79	26,834.76	31,212.76	2,076.27

BY SOURCES OF FUNDS.

State.	Total.	United States Department of Agriculture.				Smith-Lever.		State.	County.	College.	Other.
		States Relations Service.		Other bureaus and offices.	Federal.	State.					
		Regular. ¹	Emergency. ²								
Alabama.....	\$265,839.29	\$41,241.43	\$63,453.50	\$11,736.08	\$67,311.52	\$57,311.52	\$24,785.24				\$1,828.47
Arizona.....	65,722.45	6,005.76	20,860.67	9,691.58	14,574.59	4,574.59	7,216.46				4,113.39
Arkansas.....	314,617.64	37,947.71	59,903.96	21,876.87	54,475.75	44,475.75	90,871.10				
California.....	232,342.36	11,810.21	72,194.94	13,299.35	39,433.21	29,433.21	58,000.00			\$8,171.44	
Colorado.....	119,042.61	14,129.71	34,580.25	9,427.17	22,780.32	12,780.32	10,698.02				
Connecticut.....	175,888.48	10,920.50	24,416.64	6,503.56	13,725.86	3,725.86	86,515.93				
Delaware.....	31,579.37	2,265.04	11,184.98	1,305.33	13,412.01	3,412.01					
Florida.....	190,503.39	23,270.27	44,642.76	4,051.40	27,298.52	17,298.52	61,143.58				2,903.34
Georgia.....	406,699.51	44,689.59	103,704.52	10,416.45	77,129.25	67,129.25	103,630.42				
Idaho.....	104,919.97	8,966.44	31,611.28	7,389.85	18,290.24	8,290.24					
Illinois.....	338,511.41		79,855.61	5,855.29	80,085.86	70,085.86					
Indiana.....	393,696.45		135,796.96	11,318.85	60,482.72	50,482.72	67,196.18				102,628.79
Iowa.....	477,448.87	21,638.59	173,492.85	13,959.03	60,083.14	50,083.14	14,164.05				14,164.05
Kansas.....	273,983.21	18,468.71	85,268.58	11,397.64	48,814.55	38,814.55	114,410.00				114,410.00
Kentucky.....	270,763.70	35,382.18	72,506.18	2,726.67	61,529.31	51,529.31	30,532.65			34,704.13	5,982.40
Louisiana.....	238,598.08	36,771.47	52,628.72	9,208.63	47,605.63	37,605.63	30,000.00				15,000.00
Maine.....	67,516.25	8,086.63	22,474.74	2,210.82	21,702.08	11,702.08	50,438.00			1,339.90	4,340.00
Maryland.....	147,200.86	18,915.69	31,920.14	2,330.88	30,657.95	20,657.95	5,837.53				1,484.00
Massachusetts.....	323,389.61	15,001.12	56,078.96	10,409.48	17,815.33	7,815.33	81,475.00				49,553.00
Michigan.....	234,865.46	21,916.79	80,830.15	7,927.80	58,086.33	48,086.33	7,535.56				
Minnesota.....	302,923.67	18,633.45	107,419.86	14,883.66	49,730.63	39,730.63	10,482.50			4,316.93	10,796.29
Mississippi.....	343,390.72	44,870.21	77,773.14	31,848.54	61,544.93	51,544.93	64,507.80				6,502.77
Missouri.....	250,788.26	10,071.86	106,635.40	15,137.10	64,471.95	54,471.95					
Montana.....	170,073.59	12,330.10	65,740.26	19,413.94	17,866.69	7,866.69	23,014.43				
Nebraska.....	287,516.98	16,492.58	88,890.42	9,150.55	38,575.71	28,575.71	22,933.00			15,950.00	64,000.00
Nevada.....	49,968.56	4,239.32	14,317.97	1,730.00	12,221.18	2,221.18	120.00			6,555.99	
New Hampshire.....	101,009.07	10,024.50	23,458.92	2,321.62	15,689.22	5,689.22	32,416.97			799.77	
New Jersey.....	135,500.81	10,480.00	34,813.91	1,824.80	30,424.60	20,424.60	28,441.49				
New Mexico.....	159,740.62	12,096.65	30,034.17	21,983.36	19,101.88	9,101.88	28,888.04				
New York.....	529,288.65	28,042.67	105,610.25	9,586.89	72,406.53	62,406.53	204,720.43				10,308.85
North Carolina.....	432,296.08	32,038.18	87,115.29	31,358.47	71,207.07	61,207.07	110,000.00			15,121.94	675.06
North Dakota.....	159,178.31	8,696.34	44,370.15	4,963.93	26,659.17	16,659.17	37,441.01				

¹ Funds for farmers' cooperative demonstration work.

² Funds for stimulating agriculture and facilitating distribution of agricultural products.

Total expenditures of funds from all sources for cooperative agricultural extension work for the year ended June 30, 1918—Continued.

BY SOURCES OF FUNDS—Continued.

State.	Total.	United States Department of Agriculture.				Smith-Lever.		State.	County.	College.	Other.
		States Relations Service.		Other bureaus and offices.	Federal.	State.					
		Regular. ¹	Emergency. ²								
Ohio.....	\$326,978.81	\$16,630.10	\$81,985.62	\$3,950.35	\$77,984.69	\$67,984.69	\$28,755.44	\$46,687.92		\$5,161.36	\$2,679.84
Oklahoma.....	272,320.59	38,306.88	59,489.88	11,532.14	53,346.62	43,346.62		58,457.25			2,122.14
Oregon.....	193,533.17	9,528.85	42,004.42	14,208.64	21,856.96	11,856.96	59,712.60	32,242.60		65,274.86	
Pennsylvania.....	351,406.91	11,695.00	64,873.47	2,796.92	108,383.33	98,383.33					
Rhode Island.....	36,462.48	5,312.24	15,182.56	4,042.38	10,582.17	582.17				760.96	
South Carolina.....	253,662.74	38,820.85	50,969.44	18,562.97	51,843.07	41,843.07		46,868.34			4,755.00
South Dakota.....	166,306.62	11,311.88	62,957.59	12,398.24	26,445.03	16,445.03	14,865.31	21,883.54			8,734.94
Tennessee.....	317,845.94	34,200.44	91,768.79	16,777.72	66,536.03	56,536.03		43,291.99			16,065.00
Texas.....	535,142.78	58,679.25	143,787.62	18,947.50	105,919.11	95,919.11	33,639.29	95,825.19			855.69
Utah.....	130,419.32	13,117.49	37,377.27	9,911.16	16,497.96	6,497.96	2,410.98	12,522.50			11,311.29
Vermont.....	87,762.46	14,624.40	13,736.02	9,438.11	16,063.37	6,063.37	8,027.50	14,114.92			9,831.15
Virginia.....	301,139.80	37,238.84	70,416.57	9,422.39	61,391.90	51,391.90	8,027.50	53,419.64		4,310.05	16,110.00
Washington.....	220,467.56	15,536.10	56,113.49	11,912.39	27,393.22	17,393.22	6,792.75	64,906.34			7,378.39
West Virginia.....	179,848.10	21,127.20	32,180.50	7,549.91	42,191.27	32,191.27	21,125.03	16,104.53		28,306.91	
Wisconsin.....	236,811.51	11,587.38	63,268.57	10,643.71	53,106.63	43,106.63		26,791.68			1,487.82
Wyoming.....	97,849.67	9,987.81	20,274.54	4,942.92	13,331.20	3,331.20	31,016.07	13,478.11			
Total, 1918.....	11,302,764.75	951,333.82	2,949,072.48	507,282.95	2,068,066.29	1,588,066.29	682,781.45	1,863,632.29	198,309.80	196,839.01	494,219.38
..... 1917.....	6,149,619.63	958,333.87	.....	185,893.15	1,575,054.38	1,095,054.38	635,275.15	1,255,296.14	196,839.01	244,573.55	
..... 1916.....	4,864,180.94	900,389.92	.....	165,172.01	1,077,923.73	597,923.73	651,799.58	973,251.56	220,934.32	276,786.09	
..... 1915.....	3,597,235.85	905,782.00	.....	105,168.40	474,934.73	.....	724,445.13	780,331.79	319,825.25	319,825.25	286,748.55

Total expenditures of funds from all sources for cooperative agricultural extension work for the year ended June 30, 1918—Continued.

BY ITEMS OF EXPENSE.

State.	Amount of appropriation.	Salary.	Labor.	Publications.	Stationery and small printing.	Postage, telegraph, telephone, freight, and express.	Heat, light, water, and power.	Supplies.	Library.	Tools, machinery, and appliances.	Furniture and fixtures.	Scientific apparatus and specimens.	Live stock.	Traveling expenses.	Continuent expenses.
Alabama.....	\$265,839.29	\$218,303.19	\$2,460.47	\$3,539.12	\$3,968.54	\$1,906.52	\$270.33	\$3,939.13	\$83.13	\$412.30	\$2,372.77	\$227.59	.....	\$28,286.61	\$69.59
Arizona.....	65,722.45	42,888.76	83.47	1,475.13	1,709.46	1,719.95	2.70	758.33	5.00	163.85	440.66	3.59	.....	17,153.74	317.81
Arkansas.....	314,617.64	255,831.70	2,048.93	5,900.68	9,112.53	1,532.58	416.46	7,335.64	254.69	205.83	2,880.73	132.78	.....	28,927.86	17.23
California.....	232,342.36	120,488.77	7,558.26	686.50	2,444.16	1,231.12	15.00	928.08	.....	84.15	1,116.16	30.17	.....	79,022.42	18,737.57
Colorado.....	119,042.61	80,669.37	2,141.35	3,458.13	2,315.16	1,998.09	35.98	992.91	17.85	589.72	2,015.50	261.58	.....	24,167.91	379.06
Connecticut.....	175,888.48	102,844.15	12,024.03	499.70	6,336.47	3,565.67	1,551.90	9,655.18	99.79	680.92	2,351.70	145.08	\$2,081.34	31,421.69	2,630.86
Delaware.....	31,579.37	21,506.86	212.96	785.08	559.43	382.67	.....	591.09	24.44	232.81	843.55	.....	.....	6,432.48	8.00
Florida.....	190,503.39	166,774.59	291.49	1,712.49	1,055.79	222.50	.....	2,016.11	77.91	14.88	1,261.46	.....	.....	17,048.17	28.00
Georgia.....	406,699.51	336,688.42	1,782.75	6,854.90	3,625.24	3,810.46	3,223.63	4,932.78	10.00	406.14	1,834.22	316.19	.....	43,214.78	.....
Idaho.....	104,919.97	71,112.22	1,699.29	1,025.70	1,537.68	1,718.85	.....	356.06	69.50	210.94	2,055.59	199.74	.....	22,418.22	2,516.18
Illinois.....	338,511.41	231,281.29	1,529.15	2,570.13	5,877.86	1,708.49	7.35	283.62	25.65	22.25	49,750.36	31.07	.....	45,355.91	68.28
Indiana.....	393,696.45	270,147.36	2,638.13	2,864.97	6,945.83	2,455.41	.....	48,013.32	28.55	133.05	1,381.93	52.60	11.50	58,523.74	500.06
Iowa.....	477,448.87	308,561.38	21,278.66	14,180.49	5,032.95	5,230.20	850.00	4,458.55	11.59	1,073.64	2,756.22	97.65	.....	50,178.38	63,719.16
Kansas.....	273,983.21	211,945.24	114.10	1,410.59	3,728.19	2,737.29	.....	1,953.38	168.61	199.27	1,618.88	665.57	.....	49,901.13	413.68
Kentucky.....	270,763.70	219,569.37	1,147.66	1,410.59	1,192.54	1,569.48	725.00	1,251.39	36.17	325.50	3,098.75	24.87	.....	40,401.08	11.30
Louisiana.....	238,598.08	199,260.84	156.61	1,756.10	423.00	673.55	4.80	4,515.73	.....	20.00	1,727.03	.....	.....	30,042.67	17.25
Maine.....	67,516.25	42,993.44	127.64	1,084.22	1,592.10	476.49	9.80	145.10	20.25	125.07	1,397.16	6.00	.....	19,478.83	60.15
Maryland.....	147,200.86	122,417.71	584.72	2,706.87	1,582.40	725.50	151.26	477.03	26.54	134.78	1,840.25	96.41	.....	15,328.74	1,128.65
Massachusetts.....	323,389.61	239,130.00	2,553.49	1,730.98	4,789.59	3,219.53	2.69	4,082.28	130.76	471.77	886.16	.....	.....	66,370.08	22.28
Michigan.....	234,865.46	179,919.15	7,993.58	3,275.44	4,299.54	2,616.74	.....	1,124.33	32.47	261.43	1,722.05	255.28	.....	33,054.35	311.10
Minnesota.....	302,923.67	206,508.84	15,421.95	7,840.39	5,201.30	5,087.08	8.45	869.61	68.61	498.30	5,314.27	640.70	.....	53,398.57	1,881.98
Mississippi.....	343,390.72	281,945.36	1,401.17	5,924.64	3,404.76	2,020.55	.....	12,119.61	7.02	66.91	1,776.85	.....	.....	34,461.40	254.00
Missouri.....	250,785.26	171,136.50	9,540.86	5,001.12	5,692.46	3,613.72	41.58	2,666.50	51.66	204.25	3,207.07	279.29	.....	49,209.18	144.07
Montana.....	170,075.59	113,374.50	64.35	961.21	589.47	502.58	.....	10,124.53	6.46	165.44	5,207.07	118.37	.....	43,189.94	.....
Nebraska.....	287,516.98	146,585.24	2,654.48	1,360.59	19,708.45	2,484.42	6,500.00	13,477.62	97.85	278.80	15,532.33	171.85	.....	65,279.20	13,386.15
Nevada.....	49,968.56	32,023.72	522.80	1,174.58	714.68	607.03	8.25	838.90	160.93	331.94	1,603.33	125.14	.....	10,995.00	862.34
New Hampshire.....	101,009.07	57,946.45	4,629.59	897.45	5,737.73	4,773.37	1.22	3,044.96	3.56	28.11	1,491.60	1.55	.....	19,047.98	3,405.50
New Jersey.....	135,500.81	88,998.87	150.15	4,399.13	2,159.26	2,941.14	30.67	2,021.44	47.07	619.80	2,461.89	292.14	43.05	29,950.17	1,386.03
New Mexico.....	159,740.62	101,697.69	1,341.04	2,483.10	3,878.95	2,743.88	32.81	791.99	710.63	321.85	5,132.07	875.68	20.00	39,430.85	280.08
New York.....	529,288.65	335,804.65	1,972.00	23,109.47	13,851.77	15,267.98	.....	7,008.96	42.88	150.21	8,479.27	2,941.39	.....	86,378.70	34,281.37
North Carolina.....	432,296.08	349,133.84	749.36	10,620.00	4,187.61	3,986.14	13.68	7,378.50	215.20	161.12	3,024.84	531.50	7,300.00	43,786.26	1,208.03
North Dakota.....	159,178.31	103,533.34	1,529.74	374.19	1,733.31	876.08	3,100.00	124.43	2.30	131.89	1,693.11	539.89	.....	45,539.28	75
Ohio.....	326,978.81	221,435.36	3,932.73	10,514.98	6,876.59	6,686.34	.....	4,112.98	.....	523.37	2,320.84	463.10	.....	64,015.33	6,097.19
Oklahoma.....	272,320.59	226,550.28	1,639.87	4,045.01	4,419.13	377.78	.....	5,350.97	6.00	182.12	937.39	.....	.....	28,262.04	550.00

Total expenditures of funds from all sources for cooperative agricultural extension work for the year ended June 30, 1918—Continued.

BY ITEMS OF EXPENSE—Continued.

State.	Amount of appropriation.	Salary.	Labor.	Publications.	Stationery and small printing.	Postage, telegraph, telephone, freight, and express.	Heat, light, water, and power.	Supplies.	Library.	Tools, machinery, and appliances.	Furniture and fixtures.	Scientific apparatus and specimens.	Live stock.	Traveling expenses.	Continuent expenses.
Oregon.....	\$193,533.17	\$119,352.85	\$2,518.42	\$4,244.56	\$4,767.28	\$4,901.31	\$149.04	\$3,457.62	\$3.90	\$8,252.69	\$2,962.68	\$206.36	.....	\$41,447.06	\$1,269.40
Pennsylvania.....	351,406.91	218,621.49	3,565.08	10,863.77	9,078.40	9,130.13	193.15	2,495.52	93.59	711.47	3,910.92	310.05	.....	89,055.53	3,377.81
Rhode Island.....	36,462.48	28,215.80	199.68	60.37	962.54	438.83	.....	2,151.41	22.55	27.36	1,665.08	12.26	.....	4,617.14	25.46
South Carolina.....	253,662.74	215,377.00	502.65	3,641.86	3,619.66	1,559.46	7.40	6,176.69	70.22	94.13	1,821.69	118.04	.....	20,477.83	196.11
South Dakota.....	166,306.62	113,443.26	13,478.80	231.24	2,902.25	2,864.98	51.51	809.80	58.10	202.80	895.82	48.45	.....	30,443.51	876.10
Tennessee.....	317,845.94	255,692.31	2,250.01	5,392.75	9,599.69	1,888.35	308.53	4,344.83	165.11	1,446.38	3,893.56	93.14	.....	32,686.62	24.66
Texas.....	535,142.78	448,900.82	21.30	9,312.79	2,913.71	2,501.78	.....	7,582.05	174.12	29.20	3,352.26	85.24	.....	60,269.51	.....
Utah.....	130,419.32	83,120.73	2,917.84	1,096.68	1,734.65	1,516.04	.....	1,080.46	52.82	57.80	1,402.84	52.99	.....	36,862.95	523.52
Vermont.....	87,762.46	56,639.90	3,282.06	391.76	3,416.04	2,041.84	1.50	1,382.61	4.02	412.29	1,080.46	6.33	.....	17,262.09	1,841.50
Virginia.....	301,139.80	246,779.70	239.62	2,144.72	5,722.31	1,972.44	279.84	3,252.10	189.82	133.48	1,898.72	333.35	.....	34,424.56	3,769.14
Washington.....	220,467.56	130,684.37	10,047.33	3,491.06	5,361.30	3,089.38	.....	3,378.00	110.97	2,452.10	4,410.18	456.28	.....	56,970.99	15.00
West Virginia.....	179,848.10	139,063.38	590.32	2,213.27	5,057.07	1,417.43	.....	3,275.00	10.99	227.81	455.39	17.74	\$2.50	27,027.99	489.21
Wisconsin.....	236,811.51	168,613.47	12,410.28	6,825.93	1,250.26	1,859.42	.....	6,715.47	19.62	1,322.50	396.74	261.86	.....	37,040.06	95.90
Wyoming.....	97,849.67	65,452.30	339.64	3,595.12	1,943.24	1,457.74	.....	725.30	6.95	99.88	804.57	308.73	.....	22,506.17	50.03
Total, 1918.....	11,302,764.75	8,168,965.83	166,839.86	190,267.35	204,632.33	127,128.31	18,246.60	212,631.90	3,526.35	24,902.30	166,255.64	11,897.59	9,458.39	1,830,764.70	167,247.60
1917.....	6,149,619.63	4,406,021.73	84,878.32	144,777.26	113,947.63	68,330.02	6,214.88	116,804.55	2,256.33	19,178.19	53,394.57	10,567.50	1,826.68	1,023,405.63	98,016.34
1916.....	4,864,180.94	3,434,032.25	80,029.60	98,850.56	79,064.79	48,709.30	4,842.21	97,728.37	2,164.36	32,974.37	48,631.76	10,719.60	692.89	849,239.37	76,481.51
1915.....	3,597,235.85	2,616,969.86	69,954.09	72,090.72	49,640.47	37,437.90	9,614.79	55,886.15	707.48	17,094.67	36,155.66	6,870.21	2,255.99	603,432.74	19,125.12

Total expenditures of funds from all sources for cooperative agricultural extension work for the year ended June 30, 1918—Continued.

BY PROJECTS.

State.	Total.	Adminis- tration.	Printing and dis- tribution of publi- cations.	County agent.	Home economics.	Extension schools.	Boys' clubs.	Pig clubs.	Poultry clubs.	Animal hus- bandry.	Poultry.	Dairying.	Animal diseases.	Rodent pests.
Alabama.....	\$265,839.29	\$9,956.46	\$3,539.12	\$135,982.95	\$72,417.41	\$680.77	\$6,635.71	\$1,873.55	\$1,872.24	\$5,182.45	.....	\$6,192.17	\$682.80	\$40.00
Arizona.....	65,722.45	7,583.03	1,475.13	23,987.94	8,004.97	696.10	10,854.23	.....	.....	5,711.97	.....	.....	.....	5,000.00
Arkansas.....	314,617.64	24,663.57	5,900.68	158,867.77	83,934.97	1,687.32	4,068.16	952.64	.....	15,006.73	.....	4,259.49	.....	.....
California.....	232,342.36	15,608.81	686.50	163,683.99	23,431.66	.....	14,282.92	.....	.....	2,821.38	.....	515.96	.....	2,000.00
Colorado.....	119,042.61	14,635.96	3,458.13	54,349.99	11,082.96	2,089.51	13,678.56	.....	.....	5,714.49	.....	1,031.25	.....	2,250.00
Connecticut.....	175,888.48	7,646.34	4,499.70	105,262.51	18,447.24	194.75	11,915.63	1,639.02	.....	2,058.97	\$3,021.20	4,791.23	.....	.....
Delaware.....	31,579.37	4,123.80	785.08	11,080.67	8,271.56	.....	5,467.06	.....	.....	595.87	.....	1,291.72	.....	.....
Florida.....	190,503.39	9,651.29	1,712.49	91,678.94	77,075.60	.....	6,159.63	.....	.....	971.05	74.04	876.75	100.00	.....
Georgia.....	406,699.51	27,336.04	6,854.90	205,528.71	128,515.83	5,004.35	1,366.03	1,206.58	707.31	6,204.96	.....	5,741.50	1,775.12	135.00
Idaho.....	104,919.97	12,883.63	1,025.70	36,799.37	16,144.24	2,925.57	16,066.73	.....	.....	2,528.96	.....	3,630.46	.....	3,500.00
Illinois.....	338,511.41	13,588.20	2,570.13	244,826.52	44,615.76	.....	11,800.54	.....	.....	4,858.47	.....	704.60	.....	.....
Indiana.....	393,696.45	31,084.41	2,864.97	229,138.42	31,228.49	7,868.47	21,948.56	.....	.....	11,227.06	4,168.18	9,626.17	3,200.00	.....
Iowa.....	477,448.87	47,646.02	14,180.49	207,830.14	78,012.95	.....	28,964.36	.....	.....	11,224.44	4,849.03	38,062.22	4,735.44	.....
Kansas.....	273,983.21	9,666.72	537.87	132,974.72	34,760.50	10,319.56	19,973.44	397.38	638.81	7,179.42	2,290.50	4,861.96	3,348.95	.....
Kentucky.....	270,763.70	15,282.81	1,410.59	142,965.03	75,094.20	567.70	5,117.49	964.39	912.88	4,451.24	3,082.73	826.67	1,277.11	.....
Louisiana.....	238,598.08	9,325.44	1,756.10	128,582.38	57,889.01	.....	18,125.12	.....	.....	2,671.67	5,025.67	4,548.43	.....	.....
Maine.....	67,516.25	7,062.65	1,084.22	35,597.47	11,222.07	.....	3,007.71	.....	.....	116.67	1,934.79	3,195.46	.....	.....
Maryland.....	147,200.86	16,222.40	2,706.87	61,265.17	38,192.81	.....	7,489.53	.....	.....	2,653.79	2,200.22	2,844.16	.....	.....
Massachusetts.....	323,389.61	13,240.17	1,913.94	90,092.52	135,779.25	11,197.28	33,218.98	.....	.....	6,626.84	3,925.90	6,079.83	.....	.....
Michigan.....	234,865.46	7,276.09	3,327.95	115,906.91	30,408.26	6,251.80	31,277.91	.....	.....	5,622.49	1,859.71	3,544.12	.....	.....
Minnesota.....	302,923.67	19,269.48	7,840.39	162,189.34	35,223.87	2,526.33	24,215.32	.....	.....	2,228.13	3,151.01	17,851.41	.....	188.00
Mississippi.....	343,390.72	5,669.10	5,924.64	161,210.82	99,912.05	3,237.61	12,578.65	.....	.....	19,732.51	.....	15,408.80	.....	.....
Missouri.....	250,788.26	12,636.59	5,001.12	110,169.68	55,158.33	3,036.31	17,748.03	.....	.....	11,812.39	2,453.01	5,944.72	4,914.71	14,000.00
Montana.....	170,075.59	10,593.49	961.21	91,217.29	27,111.25	.....	15,813.22	.....	.....	1,680.17	.....	2,293.21	.....	.....
Nebraska.....	287,516.98	27,202.93	1,360.59	96,816.33	36,137.12	34,696.54	46,537.18	.....	.....	9,024.94	.....	5,984.63	.....	.....
Nevada.....	49,968.56	3,934.18	1,174.50	16,295.38	11,601.78	.....	10,454.80	.....	.....	230.00	.....	3,033.60	3,244.32	.....
New Hampshire.....	101,009.07	5,153.78	897.45	54,211.71	27,286.59	.....	4,946.67	.....	.....	218.28	300.00	6,384.23	.....	.....
New Jersey.....	135,500.81	11,973.56	4,399.13	66,599.84	26,878.78	.....	10,532.85	.....	.....	50.00	2,998.68	2,842.86	.....	18,500.00
New Mexico.....	159,740.62	12,117.33	2,483.10	78,708.61	20,028.23	3,507.64	15,221.64	.....	.....	1,005.55	50.00	3,017.93	1,902.01	.....
New York.....	529,288.65	26,393.33	23,109.47	287,051.11	78,787.95	19,076.56	17,192.42	.....	.....	9,641.56	6,142.90	7,864.11	.....	.....
North Carolina.....	432,296.08	15,786.29	10,620.00	174,678.63	110,297.82	2,663.62	9,946.50	.....	.....	28,568.89	.....	25,858.35	1,943.12	5,696.91
North Dakota.....	159,178.31	13,954.04	1,533.19	96,090.46	19,993.99	.....	13,642.32	.....	.....	2,914.04	4,507.04	870.46	.....	.....
Ohio.....	326,978.81	39,239.49	10,514.98	129,526.52	42,388.11	1,757.69	25,252.51	.....	.....	6,306.81	.....	10,240.71	1,519.07	.....
Oklahoma.....	272,320.59	15,823.60	4,045.01	154,960.79	65,211.07	.....	11,204.69	710.17	2,002.72	4,055.33	.....	4,909.08	.....	2,500.00
Oregon.....	193,533.17	20,548.45	4,244.56	91,797.37	17,935.15	.....	18,503.72	1,897.29	.....	4,167.03	1,705.41	9,433.28	.....	.....
Pennsylvania.....	351,406.91	24,734.64	26,275.94	167,719.18	78,101.67	652.78	4,489.87	.....	.....	4,796.56	3,361.64	13,384.39	.....	.....
Rhode Island.....	36,462.48	6,899.56	60.37	6,781.94	8,282.86	.....	8,884.11	.....	.....	1,180.68	417.85	2,812.03	.....	.....

Total expenditures of funds from all sources for cooperative agricultural extension work for the year ended June 30, 1918—Continued.

BY PROJECTS—Continued.

State.	Total.	Adminis- tration.	Printing and dis- tribution of publi- cations.	County agent.	Home economics.	Extension schools.	Boys' clubs.	Pig clubs.	Poultry clubs.	Animal hus- bandry.	Poultry.	Dairying.	Animal diseases.	Rodent pests.
South Carolina.....	\$253,662.74	\$14,724.10	\$3,641.86	\$91,701.23	\$93,511.92	.....	\$4,573.94	.....	.....	\$7,631.07	\$1,636.41	\$15,430.90	.....	.....
South Dakota.....	166,306.62	13,125.71	231.24	97,034.69	7,438.75	\$10,070.13	10,660.59	.....	.....	12,370.85	.....	2,748.46	\$2,948.42	.....
Tennessee.....	317,845.94	32,624.38	5,392.75	137,951.25	104,934.32	2,917.34	.....	.....	\$1,541.04	8,061.11	.....	12,294.57	.....	\$165.00
Texas.....	535,142.78	18,603.95	9,312.79	332,811.42	79,129.72	10,932.06	11,099.41	.....	.....	16,948.95	.....	7,590.61	.....	.....
Utah.....	130,419.32	10,467.27	1,096.68	62,168.15	18,187.88	2,485.71	14,655.55	.....	.....	2,588.89	.....	5,901.19	186.04	.....
Vermont.....	87,762.46	6,429.28	391.76	49,429.96	8,887.85	137.82	6,809.20	.....	.....	3,048.90	585.70	7,216.50	.....	583.00
Virginia.....	301,139.80	28,965.76	2,144.72	143,651.18	86,618.82	742.64	6,149.32	.....	1,887.25	5,619.75	.....	8,147.24	.....	1,000.00
Washington.....	220,467.56	11,769.29	3,491.66	108,148.81	25,072.49	306.01	30,845.09	.....	.....	13,775.00	503.10	11,102.42	.....	.....
West Virginia.....	179,848.10	15,677.08	2,598.27	90,113.46	26,480.64	1,851.20	16,096.41	.....	.....	8,194.03	.....	6,523.32	.....	103.00
Wisconsin.....	236,811.51	15,527.53	6,825.93	121,539.63	19,581.48	3,385.64	13,837.89	.....	.....	9,966.96	.....	11,928.71	.....	.....
Wyoming.....	97,849.67	9,847.83	3,595.12	47,975.82	11,517.74	487.34	16,955.98	.....	.....	928.27	.....	3,150.64	.....	3,000.00
Total, 1918.....	11,302,764.75	754,175.86	207,478.99	5,604,962.72	2,226,227.97	153,904.15	669,666.18	\$89,641.02	9,562.25	299,629.70	60,840.59	332,852.55	31,777.11	58,670.91
..... 1917.....	6,149,619.63	512,891.54	137,647.87	3,058,640.94	741,679.89	175,754.15	1,5319,556.91	6,248.37	9,612.88	155,815.37	49,885.66	208,966.50	44,215.83	16,435.68
..... 1916.....	4,864,180.94	445,243.67	99,779.68	2,411,539.81	519,866.99	198,045.02	231,227.16	25,202.85	12,772.35	106,735.03	34,556.14	172,557.69	21,936.02	.....
..... 1915.....	3,498,815.35	295,308.48	71,597.65	1,902,230.51	319,822.50	198,353.91	162,448.27	10,477.90	10,005.21	31,970.18	9,469.93	106,098.08	4,563.64	.....

Total expenditures of funds from all sources for cooperative agricultural extension for the year ended June 30, 1918—Continued.

BY PROJECTS—Continued.

State.	Agro- nomy.	Horti- culture.	Botany and plant pathol- ogy.	Ento- mology, apicul- ornithol- ogy.	Forestry.	Agricul- tural engineer- ing.	Farm manage- ment.	Rural organiza- tion.	Marketing.	Exhibits and fairs.	Farmers' institutes.	Corre- spondence courses.	Agricul- ture in schools.	Miscel- laneous spe- cialists.
Alabama.....	\$4,998.15	\$2,058.69	\$268.31	\$1,148.97		\$1,096.03	\$2,673.73		\$5,823.15					\$2,716.63
Arizona.....				1,301.44						\$150.30				
Arkansas.....		3,139.24	833.73	456.30			3,670.63		7,176.41					
California.....			741.48	7,220.53			1,349.13							
Colorado.....	1,032.69			1,162.21			3,281.74		5,325.12					
Connecticut.....	2,402.30	549.23		981.29			3,472.76		4,834.33	2,360.59			\$70.64	5,740.73
Delaware.....				13.61										
Florida.....				2,203.60					3,092.24	2,182.08				
Georgia.....	1,979.32	3,233.43	2,781.21	1,187.40		1,867.50								
Idaho.....	5,264.42	3,699.02		451.87										
Illinois.....				232.22			2,574.15							
Indiana.....	5,360.93	5,350.67	2,582.71	1,347.73		2,238.51	4,829.19		290.00		\$19,490.00			13,432.80
Iowa.....	15,143.60	10,731.35	188.89	2,082.19		6,408.97	4,599.89		2,488.89				300.00	
Kansas.....	5,003.89	2,286.64		6,238.75		4,754.63	2,949.07	\$4,113.13	12,338.12		7,659.19	\$14,028.08		
Kentucky.....	3,632.84	2,839.90							557.96					
Louisiana.....	2,098.49	4,757.64	481.12	1,742.41										1,036.64
Maine.....			652.00	561.10			2,731.81							350.30
Maryland.....	1,981.53	7,218.74	2,648.19	34.23				1,422.15						
Massachusetts.....		3,079.21	1,452.15	1,422.71		321.07	2,125.60	5,627.69	3,481.97	1,352.76		2,705.70		67.11
Michigan.....	6,634.33	4,692.77	3,412.56	2,234.45			2,687.47		5,798.57		411.54			
Minnesota.....	1,634.08	2,335.51	2,154.51	1,373.27			12,321.78	1,053.89	2,130.00		5,425.35			
Mississippi.....		4,291.29	221.10	3,829.28			2,519.51		5,376.46					
Missouri.....	6,830.81	2,300.53		6,056.60			2,149.02	3,193.41		627.34				
Montana.....				2,473.94			162.50		3,817.31					
Nebraska.....	5,622.58	5,436.83		4,480.53		6,239.11	6,977.67		1,000.00					
New Hampshire.....					107.02		1,503.34							
New Jersey.....	4,059.50	4,207.56	870.00	88.05										
New Mexico.....	1,098.05			393.31			10.85		1,636.37					
New York.....	13,434.10	6,312.86	8,040.00	9,304.80	2,792.49	3,502.20	9,643.67		560.00	439.12				
North Carolina.....	16,276.94	2,056.92	1,439.96	3,833.91	944.54	2,168.34	2,925.12	800.00	18,624.27	2,862.86				
North Dakota.....		1,371.83		772.45			2,168.62		150.00					
Ohio.....	13,404.82	5,969.06		633.41			5,086.58				25,142.01	3,056.75		
Oklahoma.....	143.98			1,674.07			2,819.43		500.57				1,991.76	
Oregon.....	3,556.59	4,912.95		4,928.85			991.95		4,866.57					
Pennsylvania.....	4,506.47	8,459.67	2,775.67	4,659.93										
Rhode Island.....	312.53			830.53				4,351.40		3,137.10				
South Carolina.....	2,448.17	6,058.46	4,517.11	3,465.09				984.75	3,287.73					
South Dakota.....	1,175.06	1,388.92		1,104.20		1,276.73	4,732.87							

Total expenditures of funds from all sources for cooperative agricultural extension for the year ended June 30, 1918—Continued.

BY PROJECTS—Continued.

State.	Agronomy.	Horticulture.	Botany and plant pathology.	Entomology, apiculture, oruthology.	Forestry.	Agricultural engineering.	Farm management.	Rural organization.	Marketing.	Exhibits and fairs.	Farmers' institutes.	Correspondence courses.	Agriculture in schools.	Miscellaneous specialists.
Tennessee.....	\$5,302.57			\$1,775.35		\$1,914.82		\$20,376.97	\$3,136.44					
Texas.....			\$19,673.23	8,200.34				298.33						
Utah.....	2,654.42	\$875.04	1,490.09	532.75		817.55	\$2,724.62	229.12	2,358.11			\$999.96		
Vermont.....		170.46	500.00				4,141.05			\$13.98				
Virginia.....	2,694.19	7,937.04		2,389.09	\$60.79	1,021.01			1,920.00					
Washington.....	4,459.86			4,350.19			3,201.71		2,441.93					
West Virginia.....	2,915.77	3,817.78	601.04	60.00							\$4,130.94	411.11	\$273.45	
Wisconsin.....	5,148.26	4,065.28	3,265.71	1,297.09		19,219.02	1,222.38							
Wyoming.....				302.92			54.16			33.85				
Total, 1918.....	153,211.24	125,604.52	61,591.37	100,783.02	5,099.82	64,517.11	102,302.00	42,152.51	104,268.49	13,159.98	62,259.03	21,201.60	2,635.85	\$24,588.21
1917.....	105,529.87	84,069.57	32,596.15	14,826.22	9,558.50	50,600.78	102,033.20	46,194.46	50,237.47	12,482.49	94,521.08	50,804.53	5,279.50	53,534.22
1916.....	77,859.05	79,745.13	14,014.12	8,516.74	3,638.84	36,080.32	88,469.26	39,447.36	20,493.57	12,650.06	93,815.11	30,896.67	16,931.66	61,596.62
1915.....	20,912.81	29,927.89	4,923.17	3,940.00	3,965.44	13,041.60	51,531.27	5,060.34	2,298.60	14,019.21	92,379.09	8,442.64	6,548.89	119,478.14

Number of counties with county agents and expenditures for county-agent work for the fiscal year ended June 30, 1918.

State.	Num- ber of agri- cultural counties.	Number of counties with agent July 1.					Total ex- penditures.	Salaries.	Travel.	Other expenses.
		1914	1915	1916	1917	1918				
Alabama.....	67	67	67	65	62	66	\$135,982.95	\$124,892.77	\$9,933.10	\$1,157.08
Arizona.....	14	.....	3	6	7	11	23,987.94	15,273.76	7,410.82	1,303.36
Arkansas.....	75	45	52	53	61	68	158,867.77	147,792.51	10,718.45	356.81
California.....	45	4	11	13	17	33	163,683.99	80,150.06	63,209.99	20,323.94
Colorado.....	35	13	13	19	16	29	54,349.99	39,432.29	12,072.48	2,845.22
Connecticut.....	8	1	6	7	8	8	105,262.51	55,992.23	15,931.32	33,338.96
Delaware.....	3	.....	3	3	2	3	11,030.67	8,017.32	2,279.48	733.87
Florida.....	54	25	36	33	37	53	91,678.94	82,964.76	7,724.59	989.59
Georgia.....	152	80	81	83	117	120	205,528.71	192,223.03	13,224.33	81.35
Idaho.....	30	2	3	7	11	27	36,799.37	30,862.81	5,614.60	321.96
Illinois.....	102	14	18	20	22	53	244,826.52	161,626.66	34,861.54	48,338.32
Indiana.....	92	27	31	32	40	83	229,138.42	160,855.00	31,004.34	37,279.08
Iowa.....	99	9	11	16	26	97	207,830.14	159,889.14	16,753.60	31,187.40
Kansas.....	105	9	39	56	53	67	132,974.72	99,053.91	32,463.07	1,457.74
Kentucky.....	120	28	39	47	45	90	142,965.03	126,805.43	15,804.61	354.99
Louisiana.....	64	41	43	43	42	58	128,582.38	112,610.37	15,969.46	2.55
Maine.....	16	.....	3	4	9	16	35,597.47	23,317.99	11,607.72	671.76
Maryland.....	23	8	13	16	23	22	61,265.17	59,373.14	1,799.17	92.86
Massachusetts.....	13	1	10	9	11	13	90,092.52	67,207.41	22,785.61	99.50
Michigan.....	84	11	17	22	30	71	115,906.91	107,509.73	5,778.32	2,618.86
Minnesota.....	86	27	23	19	16	85	162,189.34	109,361.23	28,340.94	24,487.17
Mississippi.....	81	48	49	44	53	79	161,210.82	147,904.58	10,407.11	2,899.13
Missouri.....	114	13	15	14	15	71	110,169.68	76,030.00	22,279.35	11,860.33
Montana.....	41	4	8	7	12	23	91,217.29	56,299.42	29,783.26	5,134.61
Nebraska.....	93	5	8	9	8	79	96,816.33	67,665.00	18,493.75	10,657.58
Nevada.....	15	.....	.....	.....	6	8	16,295.38	10,451.57	3,929.71	1,914.10
New Hampshire.....	10	1	5	8	9	10	54,211.71	30,608.55	8,562.95	15,040.21
New Jersey.....	19	4	7	11	10	17	66,599.84	44,289.95	17,353.29	4,956.60
New Mexico.....	26	.....	8	9	11	25	78,768.61	48,507.20	21,130.31	9,131.10
New York.....	57	25	29	36	41	56	287,051.11	175,732.17	38,065.04	73,253.90
North Carolina.....	100	51	64	65	69	91	174,678.63	163,586.63	9,087.25	2,004.75
North Dakota.....	51	17	15	15	17	38	96,090.46	64,071.52	31,994.94	24.00
Ohio.....	75	8	10	12	20	63	129,526.52	101,017.52	24,286.40	4,222.60
Oklahoma.....	77	40	56	59	62	77	154,960.79	143,119.26	11,691.43	150.10
Oregon.....	35	10	12	13	14	24	91,797.37	54,282.36	19,839.41	17,675.60
Pennsylvania.....	67	10	14	22	45	53	167,719.18	118,378.85	31,616.70	17,723.63
Rhode Island.....	5	.....	.....	4	4	5	6,781.94	5,997.93	536.38	247.63
South Carolina.....	45	43	43	42	40	43	91,701.23	87,438.20	4,241.18	21.85
South Dakota.....	66	3	5	11	13	59	97,034.69	73,626.39	15,029.74	8,378.56
Tennessee.....	96	36	38	48	57	91	137,951.25	127,964.84	8,498.04	1,488.37
Texas.....	250	98	99	90	92	178	332,811.42	310,602.72	21,970.82	237.88
Utah.....	28	8	10	8	15	28	62,168.15	37,450.17	22,638.94	2,079.04
Vermont.....	14	7	9	11	11	13	49,429.96	28,178.78	11,476.45	9,774.73
Virginia.....	100	53	55	51	53	75	143,651.18	133,878.88	9,738.40	33.90
Washington.....	37	7	10	13	22	34	108,148.81	66,776.36	25,111.40	16,261.05
West Virginia.....	55	13	27	29	45	48	90,113.46	79,582.59	9,110.01	1,420.86
Wisconsin.....	71	9	12	13	22	59	121,539.63	95,277.37	20,777.95	5,484.31
Wyoming.....	21	3	6	8	13	15	47,975.82	33,487.70	11,938.97	2,549.15
Total, 1918.....	2,936	.....	.....	.....	.....	2,435	5,604,962.72	4,347,418.06	824,876.72	432,667.94
1917.....	2,920	.....	.....	.....	1,434	.....	3,059,640.94	2,412,168.23	450,736.23	196,736.48
1916.....	2,920	.....	.....	1,225	.....	.....	2,411,539.81	1,908,951.25	338,156.81	164,431.75
1915.....	2,781	.....	1,136	.....	.....	.....	1,900,048.84	1,576,843.40	257,152.46	66,052.98

Number of counties with home-demonstration agents and expenditures for home-demonstration work for the fiscal year ended June 30, 1918.

State.	Number of agricultural counties.	Number of counties with agent July 1.					Expenditures for all home-demonstration work.			
		1914	1915	1916	1917	1918	Total expenditures.	Salaries.	Travel.	Other expenses.
Alabama.....	67	18	19	27	28	67	\$72,417.41	\$63,271.04	\$5,965.15	\$3,181.22
Arizona.....	14					3	8,004.97	4,666.20	3,033.96	304.81
Arkansas.....	75	15	20	31	47	65	83,934.97	74,098.60	9,086.50	749.87
California.....	45					24	23,431.66	12,896.42	9,107.39	1,427.85
Colorado.....	35			2		7	11,082.96	8,348.11	2,167.32	567.53
Connecticut.....	8				5	8	18,447.24	15,969.28	2,209.43	268.53
Delaware.....	3				1	3	8,271.56	5,887.94	1,729.17	654.45
Florida.....	54	24	27	28	35	54	77,075.60	70,339.20	6,076.22	660.18
Georgia.....	152	29	48	45	57	125	128,515.83	110,515.93	17,206.97	792.93
Idaho.....	30					24	16,144.24	9,750.49	5,643.65	750.10
Illinois.....	102			1		88	44,615.76	35,973.38	7,070.88	1,571.50
Indiana.....	92					22	31,228.49	26,192.85	4,953.45	82.19
Iowa.....	99					96	78,012.95	52,191.98	18,639.10	7,181.87
Kansas.....	105					14	34,760.50	31,373.51	2,775.40	611.59
Kentucky.....	120	9	19	24	27	96	75,094.20	59,452.85	14,006.37	1,634.98
Louisiana.....	64	13	13	18	20	33	57,889.01	50,081.18	7,317.68	490.15
Maine.....	16					14	11,222.07	7,919.37	3,212.03	90.67
Maryland.....	23	5	6	10	13	22	38,192.81	34,513.06	3,597.47	82.28
Massachusetts.....	13			1	6	12	135,779.25	104,955.96	27,006.03	3,817.26
Michigan.....	84			1	1	24	30,408.26	21,108.76	5,924.98	3,374.52
Minnesota.....	86					39	35,223.87	26,175.26	8,052.42	996.19
Mississippi.....	81	33	33	32	49	71	99,912.05	87,118.49	11,521.78	1,271.78
Missouri.....	114					48	55,158.33	37,824.59	14,506.33	2,827.41
Montana.....	41					18	27,111.25	19,011.18	6,873.68	1,226.39
Nebraska.....	93				2	30	36,137.12	24,438.89	7,635.33	4,062.90
Nevada.....	15			1		10	11,601.78	7,715.66	2,480.70	1,405.42
New Hampshire.....	10				2	9	27,286.59	15,025.39	6,805.14	5,456.06
New Jersey.....	19			1		8	26,878.78	17,790.60	3,175.32	5,912.86
New Mexico.....	26					11	20,028.23	12,197.21	6,589.01	1,242.01
New York.....	57			1	3	38	78,787.95	51,492.18	25,060.56	2,235.21
North Carolina.....	100	27	34	44	48	72	110,297.82	101,784.96	6,870.22	1,642.64
North Dakota.....	51				2	33	19,993.99	13,353.75	6,260.39	379.85
Ohio.....	75			1		13	42,388.11	31,884.76	10,283.07	220.28
Oklahoma.....	77	19	24	22	23	50	65,211.07	56,087.66	7,572.46	1,550.95
Oregon.....	35					15	17,935.15	10,545.00	5,991.85	1,398.30
Pennsylvania.....	67			1		48	78,101.67	52,091.61	24,021.75	1,988.31
Rhode Island.....	5					4	8,282.86	6,553.74	1,625.48	103.64
South Carolina.....	45	21	24	31	36	44	93,511.92	86,294.51	6,012.10	1,205.31
South Dakota.....	66					42	7,438.75	4,160.35	2,273.04	1,005.36
Tennessee.....	96	18	24	31	49	94	104,934.32	92,012.73	12,721.32	200.27
Texas.....	250	26	27	38	31	67	79,129.72	67,999.80	10,830.38	299.54
Utah.....	28			2	2	14	18,187.88	12,789.75	4,401.73	996.40
Vermont.....	14					7	8,887.85	6,559.63	1,505.66	822.56
Virginia.....	100	17	22	25	38	52	86,618.82	74,759.79	11,687.64	171.39
Washington.....	37					22	25,072.49	14,033.77	8,315.98	2,722.74
West Virginia.....	55	5	10	12	12	33	26,480.64	19,053.75	6,641.37	785.52
Wisconsin.....	71					17	19,581.48	16,031.00	3,246.07	304.41
Wyoming.....	21					5	11,517.74	7,450.65	3,819.99	247.10
Total, 1918.....	2,936					1,715	2,226,227.97	1,771,742.77	383,509.92	70,975.28
1917.....	2,920				537		741,679.89	607,465.43	109,495.28	24,719.18
1916.....	2,920			430			519,866.99	420,420.04	79,330.84	20,116.11
1915.....	2,781		350							

Number of persons on extension staffs classified according to the time devoted to agricultural extension work for the fiscal year ended June 30, 1918.

State.	Extension staff.								Also connected with experiment station.				Also connected with college teaching.			
	Total.		Full time.		More than half time.		Less than half time.		More than half time.		Less than half time.		More than half time.		Less than half time.	
	M.	W.	M.	W.	M.	W.	M.	W.	M.	W.	M.	W.	M.	W.	M.	W.
Alabama.....	122	96	110	91	4	2	8	3	4	....	7	....	....	....	4	....
Arizona.....	23	13	17	5	1	....	5	8	....	....	....	....	....	....	....	....
Arkansas.....	128	96	112	95	....	....	16	1	....	....	16	....	....	....	16	1
California.....	119	13	68	18	....	....	51	....	68	12	51	....	....	....	21	....
Colorado.....	37	11	35	11	2	....	....	....	....	....	....	....	....	....	....	....
Connecticut.....	31	22	27	20	3	....	1	2	1	....	....	....	2	....	1	2
Delaware.....	10	7	6	6	....	....	4	1	....	....	1	....	....	....	1	....
Florida.....	72	59	55	44	8	11	9	4	1	1	6	2	....	2	3	....
Georgia.....	146	113	146	113	....	....	....	....	....	....	....	....	....	....	....	....
Idaho.....	66	32	45	15	....	1	21	16	....	....	....	....	....	....	6	1
Illinois.....	117	64	81	48	20	4	16	12	6	....	4	....	3	....	5	....
Indiana.....	286	93	110	45	....	1	176	47	....	....	....	....	....	....	4	....
Iowa.....	274	122	225	109	49	13	....	....	....	....	....	....	....	....	....	....
Kansas.....	75	25	75	25	....	....	....	....	....	....	....	....	....	....	....	....
Kentucky.....	84	67	78	67	....	....	6	....	....	....	6	....	....	....	....	....
Louisiana.....	101	63	95	63	1	....	5	....	1	....	5	....	....	....	4	....
Maine.....	40	18	29	12	....	....	10	6	....	....	....	....	....	....	....	....
Maryland.....	47	42	43	31	3	7	1	4	....	....	....	....	3	....	1	....
Massachusetts.....	57	77	54	77	....	....	3	....	....	....	....	....	....	....	3	....
Michigan.....	126	54	125	51	1	1	....	2	....	....	....	....	....	....	....	....
Minnesota.....	110	21	32	5	7	13	71	3	....	....	....	....	....	....	....	....
Mississippi.....	124	88	122	72	2	18	....	....	....	....	....	....	2	....	....	....
Missouri.....	110	71	110	71	....	....	....	....	....	....	....	....	....	....	....	....
Montana.....	54	19	46	16	....	....	8	3	1	....	....	....	....	....	2	....
Nebraska.....	105	46	99	22	2	....	4	24	1	....	3	....	....	....	3	1
Nevada.....	13	21	10	12	....	1	3	8	....	....	....	....	....	....	2	1
New Hampshire.....	48	22	33	21	1	....	14	1	1	....	14	....	....	....	13	1
New Jersey.....	45	23	36	20	1	....	8	3	....	....	1	....	1	....	3	....
New Mexico.....	60	23	49	22	2	....	9	1	....	....	3	....	....	....	3	....
New York.....	120	10	101	9	1	1	18	....	....	....	....	....	1	1	2	....
North Carolina.....	136	78	124	75	11	....	1	3	2	....	1	....	....	....	1	....
North Dakota.....	63	12	55	12	1	....	7	....	....	....	3	....	....	....	....	....
Ohio.....	137	48	80	35	2	....	55	13	....	....	3	1	....	....	21	2
Oklahoma.....	117	76	117	76	....	....	....	....	....	....	....	....	....	....	....	....
Oregon.....	59	25	42	18	1	....	16	7	....	....	15	....	1	....	16	7
Pennsylvania.....	82	27	67	27	....	....	15	....	....	....	15	....	....	....	15	....
Rhode Island.....	19	10	12	8	1	....	6	2	3	....	2	....	....	....	3	2
South Carolina.....	78	87	69	86	3	1	6	....	....	....	6	....	2	....	6	....
South Dakota.....	75	13	73	13	....	....	2	....	....	....	....	....	....	....	2	....
Tennessee.....	110	106	104	105	3	....	3	1	....	....	1	1	....	....	3	1
Texas.....	237	85	237	85	....	....	....	....	....	....	....	....	....	....	....	....
Utah.....	76	35	43	16	1	....	32	19	....	....	1	....	....	....	2	....
Vermont.....	66	30	30	15	32	14	4	1	....	....	3	....	....	....	2	....
Virginia.....	121	159	119	75	....	....	2	84	....	....	....	....	....	....	1	....
Washington.....	85	56	85	56	....	....	....	....	....	....	....	....	....	1	....	....
West Virginia.....	68	32	59	32	1	....	8	....	....	....	....	....	1	....	8	....
Wisconsin.....	98	11	28	1	17	....	53	10	8	....	33	1	12	....	39	5
Wyoming.....	32	8	30	8	2	....	....	....	....	....	....	....	....	....	....	....
Total, 1918.....	4,399	2,329	3,548	1,959	184	88	677	289	97	13	200	5	28	4	213	24
1917.....	2,983	1,117	2,238	787	209	127	536	203	29	....	206	2	26	2	249	14
1916.....	2,266	754	1,686	515	108	100	472	139	30	....	199	7	33	19	226	17

Agricultural extension publications for the fiscal year ended June 30, 1918.

State.	Number of publications issued.	Number of pages issued.	Number on mailing list.	Total cost.
Alabama.....	17	174	28,000	\$3,539.12
Arizona.....	19	243	3,000	1,475.13
Arkansas.....	55	439	10,000	5,000.68
California.....	3	3	35,450	686.50
Colorado.....	26	343	5,000	3,458.13
Connecticut.....	8	112	9,000	1,499.90
Delaware.....	13	63	4,500	785.08
Florida.....	11	145	15,000	1,712.49
Georgia.....	35	556	35,000	6,854.90
Idaho.....	20	148	16,800	1,025.70
Illinois.....	11	132	32,860	2,570.13
Indiana.....	55	370	381	2,864.97
Iowa.....	112	828	12,500	14,180.49
Kansas.....	19	222	(²)	537.87
Kentucky.....	9	181	750	1,410.59
Louisiana.....	4	210	29,733	1,756.10
Maine.....	35	204	6,000	1,084.22
Maryland.....	25	444	10,000	2,706.87
Massachusetts.....	66	375	1,350	1,730.98
Michigan.....	9	76	250	3,275.44
Minnesota.....	42	173	157,500	7,840.39
Mississippi.....	9	132	37,000	5,924.64
Missouri.....	31	260	13,717	5,001.12
Montana.....	3	56	(²)	961.21
Nebraska.....	15	130	(²)	1,360.59
Nevada.....	17	112	8,500	1,174.50
New Hampshire.....	43	207	19,000	897.45
New Jersey.....	8	202	5,000	4,399.13
New Mexico.....	34	385	13,000	2,483.10
New York.....	38	596	88,193	23,109.47
North Carolina.....	31	414	64,000	10,620.00
North Dakota.....	8	120	112,200	374.19
Ohio.....	82	996	50,000	10,514.98
Oklahoma.....	33	239	40,600	4,045.01
Oregon.....	89	504	29,747	4,244.56
Pennsylvania.....	13	231	30,000	10,863.77
Rhode Island.....	1	8	2,500	60.37
South Carolina.....	18	310	91,000	3,641.86
South Dakota.....	3	43	(²)	231.24
Tennessee.....	31	148	39,000	5,392.75
Texas.....	60	247	9,600	9,312.79
Utah.....	27	200	(²)	1,096.68
Vermont.....	8	60	16,000	391.76
Virginia.....	17	226	4,000	2,144.72
Washington.....	5	100	24,000	3,491.66
West Virginia.....	67	384	30,000	2,213.27
Wisconsin.....	72	644	35,300	6,825.93
Wyoming.....	20	230	14,000	3,595.12
Total, 1918.....	1,377	12,625	979,431	190,267.35
1917.....	1,472	13,153	798,689	133,647.87
1916.....	864	9,330	1,023,828	99,779.68
1915.....	819	8,279	967,426	72,090.72

¹ Number on list June 30, 1917.² No list; distributed upon request.

